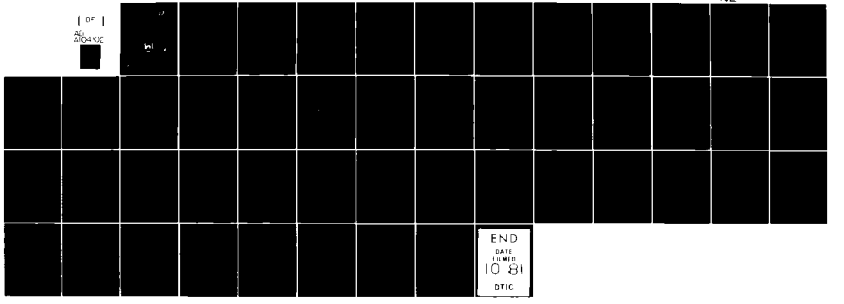
AD-A104 102 ARMY ENGINEER DISTRICT PHILADELPHIA PA F/G 8/8
SPECIAL FLOOD HAZARD REPORT, DARBY CREEK AND MUCKINIPATTIS CREE--ETC(U)
AUG 77
UNCLASSIFIED DAEN/NAP-82040/SFH02-7770 NL



LEVEL II

SPECIAL FLOOD HAZARD REPORT

DARBY CREEK AND MUCKINIPATTIS CREEK

DELAWARE COUNTY, PENNSYLVANIA

AUG 77

PREPARED FOR
DELAWARE COUNTY PLANNING COMMISSION
BY
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

TO THE REQUESTOR:

This Flood Plain Information (FPI) Report was prepared by the Philadelphia District office of the U.S. Army Corps of Engineers, under the continuing authority of the 1960 Flood Control Act, as amended. The report contains valuable background information, discussion of flood characteristics and historical flood data for the study area. The report also presents through tables, profiles, maps and text, the results of engineering studies to determine the possible magnitude and extent of future floods, because knowledge of flood potential and flood hazards is important in land use planning and for management decisions concerning floodplain utilization. These projections of possible flood events and their frequency of occurrence were based on conditions in the study area at the time the report was prepared.

Since the publication of this FPI Report, other engineering studies or reports may have been published for the area. Among these are Flood Insurance Studies prepared by the Federal Insurance Administration of the Federal Emergency Management Agency, Flood Insurance Studies generally provide different types of flood hazard data (including information pertinent to setting flood insurance rates) and different types of floodplain mapping for regulatory purposes and in some cases provide updated technical data based on recent flood events or changes in the study area that may have occurred since the publication of this report.

It is strongly suggested that, where available, Flood Insurance Studies and other sources of flood hazard data be sought out for the additional, and, in some cases, updated flood plain information which they might provide. Should you have any questions concerning the preparation of, or data contained in this FPI Report, please contact:

U.S. Army Corps of Engineers
Philadelphia District
Custom House, 2nd and Chestnut Streets
Philadelphia, PA 19106

ATTN: Flood Plain Mgt. Services Branch, NAPEN-M

Telephone number: (215) 597-4807

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER DAEN/NAP-82040/SFH02-77/08	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE *(and Subtitle)* Special flood hazard report Darby Creek and Muckinipattis Creek, Delaware County, Pa.		5. TYPE OF REPORT & PERIOD COVERED Special flood hazard report 6. PERFORMING ORG. REPORT NUMBER DAEN/NAP-82040/SFH02-77/08
7. AUTHOR(s)		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army Engineer District Philadelphia 2nd & Chestnut Sts. Philadelphia, PA 19106		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army Engineer District Philadelphia 2nd & Chestnut Sts. Philadelphia, PA 19106		12. REPORT DATE Aug. 1977 13. NUMBER OF PAGES 24
14. MONITORING AGENCY NAME & ADDRESS *(if different from Controlling Office)*		15. SECURITY CLASS. *(of this report)* UNCLASSIFIED 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT *(of this Report)*

APPROVED FOR PUBLIC RELEASE ; DISTRIBUTION UNLIMITED

17. DISTRIBUTION STATEMENT *(of the abstract entered in Block 20, if different from Report)*

18. SUPPLEMENTARY NOTES

19. KEY WORDS *(Continue on reverse side if necessary and identify by block number)*

Floods
Darby Creek, Pa.
Muckinipattis Creek, Pa.
Delaware County Planning Commission
Flood forecasting
Flood plains

20. ABSTRACT *(Continue on reverse side if necessary and identify by block number)*

This special flood hazard information report was undertaken at the request of the Delaware County Planning Commission by the U.S. Army Corps of Engineers, Philadelphia District. It covered Darby Creek within Delaware County, Pa. from it confluence with the Delaware River near Essington to the upstream study limit athe the Delaware-Chester County Line, a distance of 21.4 miles. Darby Creek flows in a generally southeasterly direction from its headwaters in Easttown Township,

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

SECURITY CLASSIFICATION OF THIS PAGE *(When Data Entered)*

Chester County and drains a watershed of 77.2 square miles.

Muckinipattis Creek is a major tributary to Darby Creek with headwaters in Sprinfield Township, Delaware County with a drainage area of 4.3 square miles.

The hydrology, hydraulics and drainage areas of the creek were described. The data also included peak floods for 10, 50, 100, 500 year floods, rise and duration of flooding and flood profiles.

The information given within the scope of this report should be considered for its historical value. Since the publication of this report other flood insurance studies have been undertaken and should also be consulted for current information.

SPECIAL FLOOD HAZARD INFORMATION REPORT

DARBY AND MUCKINIPATTIS CREEKS,

DELAWARE COUNTY, PENNSYLVANIA

Table of Contents

TABLES

Table of Contents (Continued)

PLATES

SPECIAL FLOOD HAZARD INFORMATION REPORT

DARBY AND MUCKINIPATTIS CREEKS,

DELAWARE COUNTY, PENNSYLVANIA

1.0 AUTHORITY FOR STUDY

This Special Flood Hazard Information Report was undertaken at the request of the Delaware County Planning Commission with the indorsement of the Pennsylvania Department of Environmental Resources. This report was prepared by the Philadelphia District, U. S. Army Corps of Engineers, under continuing authority provided in Section 206 of the 1960 Flood Control Act as amended.

2.0 DESCRIPTION OF AREA AND LIMITS OF STUDY

This report covers the Darby Creek within Delaware County, Pennsylvania, from its confluence with the Delaware River near Essington to the upstream study limit at the Delaware-Chester County Line, a distance of approximately 21.4 miles. Darby Creek flows in a generally southeasterly direction from its headwaters in Easttown Township, Chester County, and drains a watershed of 77.2 square miles. Within the study area, Darby Creek slopes an average of 13.9 feet per mile.

Muckinipattis Creek, a major tributary to Darby Creek, was also studied in this report. Muckinipattis Creek, with a drainage area of 4.3 square miles, has its headwaters in Springfield Township, Delaware County. It flows in a southeasterly direction through a heavily developed residential area. The stream slopes an average of 36.6 feet per mile in the study area.

The flood plains in the lower portions of Darby Creek and all of Muckinipattis Creek are primarily residential or industrial. In these areas the banks are fairly steep with trees and vegetation overgrowing the streambed. In the central reach, the flood plains are still rather heavily developed with the exception of some wooded areas located along the steep banks. In the upper reach, the flood plains are occupied with scattered residential structures. In this area, the overbanks become heavily wooded with many trees

extending over the channel. The study areas of Darby Creek and Muckinipattis Creek are shown on the General Map (Plate 1). A tabulation of stream mileages and respective drainage areas can be found in Table 1.

3.0 HISTORY OF FLOODING

One of the greatest floods experienced in the Darby-Cobbs Creek Watershed occurred on August 5, 1843. Violent wind and heavy rain struck the watershed and deposited 12 or more inches of rain on many parts of Delaware County. Within a short time, Darby Creek rose more than a foot an hour and reached a maximum depth of 17-1/2 feet. On Darby Creek, two bridges and several mill dams were destroyed. Several persons lost their lives in Darby Creek.

In August 1955, torrential rains of Hurricane Diane, preceded one week before by the heavy rainfall of Hurricane Connie, caused a flood disaster on the entire East Coast of the United States. Darby Creek overflowed its banks for most of its entire length and inundated adjacent areas to depths varying from about two feet to almost seven feet.

Extensive destruction was suffered along the Eastern Seaboard during September 1960 due to the intensive force of Hurricane Donna. Overbank flooding occurred along Darby Creek resulting in part from debris piling against bridges causing a temporary damming effect. Water in some overbank flooded areas was three to five feet deep. Along the creek, numerous private residences, industrial establishments and commercial properties experienced flooding of cellars and first floors. One fatality also occurred in the area.

In addition to the floods described in the preceding paragraphs, other minor localized flooding events have been reported along Darby Creek in June 1935, March 1939, December 1951 and February 1952. There is little recorded information available for Muckinipattis Creek. Detailed accounts of flooding in Muckinipattis Creek have been overshadowed by more extensive and damaging floods on Darby Creek; however, flood events that occurred on Darby Creek could also have occurred simultaneously on Muckinipattis Creek.

4.0 DESCRIPTION OF WORK

4.1 Surveys

Field surveys, including stream profiles, cross sections and bridge measurements were performed by the Philadelphia District, U. S. Army Corps of Engineers.

4.2 Hydrology

A stream gaging station has been maintained on Darby Creek at the Providence Road Bridge by the U. S. Geological Survey since 1964. These gage records along with those of three other gages in the adjoining Cobbs Creek Basin were analyzed by the Log Pearson Type III Method to determine discharge-frequency relationships. A rainfall-runoff model of the basin was constructed using the Corps' HEC-I Computer Program and the HEC Regional Frequency Study of the Upper Delaware and Hudson River Basins was also investigated. The resulting recommended peak flows for the 10-, 50-, and 100-year floods were based on composite data developed by these three methods. The 100-Year Flood is defined as the flood which occurs once in 100 years on the average and has a 1% chance of being equalled or exceeded in any year.

Peak flows for the 500-Year Flood were based on Corps' Standard Project Flood calculations and extrapolation of discharge-frequency curves computed for flood events up to the 100-Year Flood. A tabulation of peak flows for Darby and Muckinipattis Creeks can be found in Table 2.

4.3 Hydraulics

Water surface profiles for the 10-, 50-, 100-, and 500-Year Flood events for Darby and Muckinipattis Creeks were computed using the Corps of Engineers' HEC-II Backwater Program. Starting water surface elevations for Darby Creek were obtained through analysis of coincident occurrences of fluvial flood events on Darby Creek and corresponding tidal flood events on the Delaware River. Starting water surface elevations for Muckinipattis Creek were obtained through analysis of coincident occurrences of fluvial flood events on Muckinipattis Creek and corresponding tidal events on the Darby Creek. Water surface profiles shown in this report were based on existing conditions of the watershed at the time field surveys were performed. During an actual flood, debris collecting on bridges and culverts could decrease their water-carrying capacity and cause backwater effects upstream of these structures. However, since the location and extent of debris accumulation are impossible to predict, it was necessary, for the purposes of this report, to assume that bridge and culvert openings would remain unobstructed.

In addition to bridges and culverts, there are 6 small dams located on Darby Creek and one small dam on Muckinipattis Creek within the study area. These dams have no significant flood storage capacity and will have a minimal effect on floodflow characteristics. Water surface profiles thus developed can be found on Plates 2 through 10. A tabulation of flood elevations at all bridges and culverts can be found in Table 3.

Typical stream cross sections on Darby and Muckinipattis Creeks and respective water surface elevations for the four frequency-flood events are shown on Plates 11 through 13. Maximum velocities of flow which are expected to occur at these selected cross sections are given in Table 4. Predicted rates of rise and duration of flooding for the 100-Year Flood on Darby Creek at the U. S. Geological Survey Stream Gaging Station at Darby, Pennsylvania, is given in Table 5.

5.0 ACKNOWLEDGMENTS

The assistance and cooperation of the Delaware County Planning Commission, Folcroft Planning Commission and private citizens in supplying data for the preparation of this report are appreciated.

Additional copies of this report can be obtained from the Delaware County Planning Commission. The Philadelphia District Office of the Corps of Engineers, Department of the Army, will upon request provide technical assistance to planning agencies in the interpretation and use of the data presented as well as planning guidance and further assistance, including the development of additional technical information.

TABLE 1

DRAINAGE AREAS

DARBY CREEK AND MUCKINIPATTIS CREEK

Location	Stationing Above Mouth feet	Drainage Area Tributary sq. mi.	Drainage Area Total (a) sq. mi.
Darby Creek			
Confluence with Delaware River	0+00	--	77.2
Confluence of Stony Creek	27+65	3.0	76.7
Confluence of Muckinipattis Creek	122+50	4.3	71.0
Confluence of Cobbs Creek	329+90	22.3	62.3
Confluence of Langford Run	815+00	1.4	27.8
Confluence of Little Darby Creek	1067+50	3.6	10.9
Muckinipattis Creek			
Confluence with Darby Creek	0+00	--	4.3

(a) Includes tributary.

TABLE 2

PEAK FLOWS FOR THE 10-YEAR, 50-YEAR,
100-YEAR AND 500-YEAR FLOODS

DARBY CREEK AND MUCKINIPATTIS CREEK

Location	Stationing Above Mouth feet	Drainage Area sq. mi.	Discharges 10-Year Flood cfs	50-Year Flood cfs	100-Year Flood cfs	500-Year Flood cfs
Darby Creek						
Confluence with Delaware River	0+00	77.2	13,000	24,000	33,500	54,600
Downstream of confluence with Muckinipattis Creek	122+50	71.0	11,500	21,500	29,000	49,600
Downstream of confluence with Cobbs Creek	329+90	62.3	10,800	20,000	26,000	45,900
Downstream of confluence with Langford Run	815+00	27.8	5,700	10,600	13,900	24,600
Study Limit	1127+80	5.8	1,700	3,000	3,800	6,800
Muckinipattis Creek						
Confluence with Darby Creek	0+00	4.3	1,170	2,000	2,800	4,400

TABLE 3

ELEVATION DATA

BRIDGES ACROSS DARBY CREEK AND MUCKINIPATTIS CREEK

Identification	Stationing Above Mouth feet	Underclearance Elevation Feet-Mean Sea Level Datum	Water Surface Elevations 100-Year Flood Feet - Mean Sea Level Datum	Water Surface Elevations 500-Year (a) Flood Feet - Mean Sea Level Datum
Darby Creek				
Penn Central RR	11+61	8.1	9.5	14.2
Reading RR	13+20	7.9	9.5	14.2
Pa. Rte. 291	16+42	25.8	9.5	14.2
Interstate Rte. 95	25+40	31.5	9.5	14.2
Pa. Rte. 420	65+47	13.4	9.5	14.2
Hook Rd. - 84th St.	300+00	15.3	16.8	21.0
Penn Central RR	352+90	21.9	20.2	25.0
Penn Central RR	364+60	35.3	22.4	28.3
Pine St.	373+35	19.7	24.6	29.3
B & O RR	384+60	62.4	25.2	29.8
9th St.	396+95	16.8	26.9	31.4
Bus Access Rd.	399+85	16.6	27.1	31.4
MacDade Blvd.	403+48	16.0	28.2	32.7
Providence Rd.	450+65	37.0	38.2	46.4
Hilldale Rd.	479+70	46.2	47.9	53.3
Penn Central RR	507+45	109.9	57.3	60.9
Baltimore Pike	518+20	61.4	71.5	73.9
Bridge St.	538+90	115.9	80.8	85.7
Footbridge	548+00	76.2	83.7	89.2
Footbridge	549+25	78.1	88.6	95.5
SEPTA Trolley Line	560+25	106.3	96.7	99.1
Garrett Rd.	618+05	154.7	130.6	134.1
Rosemont Ave.	624+03	130.2	135.0	137.7
SEPTA Trolley Line	670+60	144.2	149.3	152.6
State Rd.	686+15	156.3	153.8	157.7
Burmont Rd.	732+15	157.0	159.1	162.6
Old W. Chester Pike	825+75	177.2	184.7	188.9
West Chester Pike	830+50	190.8	185.0	189.3
Marple Rd.	884+30	185.1	191.1	193.0
Pa. Rte. 320	941+60	198.3	202.4	205.4
Bryn Mawr Ave.	983+40	208.7	208.0	209.4
Goshen Rd.	997+40	218.0	214.6	220.2
Private Rd.	1006+95	217.4	216.4	222.9

TABLE 3 (Continued)

ELEVATION DATA

BRIDGES ACROSS DARBY CREEK AND MUCKINIPATTIS CREEK

Identification	Stationing Above Mouth	Underclearance Elevation	Water Surface Elevations	
			100-Year Flood	500-Year (a) Flood
		Feet-Mean Sea Level Datum	Feet - Mean Sea Level Datum	
Darby Creek (cont'd)				
Briarwood Rd.	1016+20	215.5	218.5	223.4
Saw Mill Rd.	1063+50	231.3	233.0	234.6
Paper Mill Rd.	1099+00	264.4	268.0	270.3
St. David's Rd.	1127+80	293.3	296.5	299.8
Muckinipattis Creek				
Delmar Dr.	43+00	14.3	11.5	14.5
Glenolden Rd.	63+30	41.9	29.8	33.3
Elmwood Ave.	76+80	39.1	32.0	34.8
Glenolden Rd.	88+80	41.0	38.4	43.6
South Ave.	106+60	44.2	45.3	46.4
Footbridge	109+60	45.9	46.7	48.7
Chester Pike	115+60	52.1	47.8	52.9
Penn Central RR	117+60	64.5	49.7	53.7
West South Ave.	123+60	50.7	51.4	55.3
Footbridge	140+60	54.8	57.1	57.6
B & O RR	146+60	64.6	63.2	68.8
MacDade Blvd.	156+60	61.7	64.0	69.1
Hibbs Ave.	164+40	63.6	65.9	69.7
Academy Ave.	166+40	64.7	67.6	70.1
Footbridge	184+80	80.5	82.8	84.6
Private Bridge	203+20	98.1	98.3	100.5
Footbridge	204+30	101.2	100.5	103.5
Private Bridge	205+40	101.1	101.9	103.5
Footbridge	208+00	104.1	102.6	105.0
Ashland Ave.	215+20	106.8	108.6	109.7
Providence Rd.	224+20	117.1	115.7	117.7
Box Culvert	225+00	115.0	117.0 (b)	119.5 (b)
Box Culvert	233+60	125.8	128.5	135.0
Penn Central RR	234+20	129.8	129.3	136.5
Primos Ave.	237+20	129.0	131.8	136.5
Bunting Lane	243+20	136.7	138.3	138.8

TABLE 3 (Continued)

ELEVATION DATA

BRIDGES ACROSS DARBY CREEK AND MUCKINIPATTIS CREEK

Identification	Stationing Above Mouth feet	Underclearance Elevation Feet-Mean Sea Level Datum	Water Surface Elevations 100-Year Flood Feet - Mean Sea Level Datum	Water Surface Elevations 500-Year (a) Flood Feet - Mean Sea Level Datum
Muckinipattis Creek (cont'd)				
Footbridge	248+20	139.7	142.6	143.2
Box Culvert	252+20	156.1	156.7 (b)	159.4 (b)
Box Culvert	260+20	169.2	173.5	176.7
Bishop Ave.	275+00	183.4	187.7	188.2
North Ave.	283+00	196.8	199.9	202.8
Box Culvert	286+00	196.3	200.1 (b)	202.8 (b)
Box Culvert	295+00	204.0	206.9	207.8

(a) Flood elevations are listed for the upstream side of the bridge.

(b) Flood elevations for the downstream side of the bridge.

TABLE 4

MAXIMUM VELOCITIES

DARBY CREEK AND MUCKINIPATTIS CREEK

Location	Stationing Above Mouth feet	Maximum Velocity 100-Year Flood Channel ft/sec	100-Year Flood Overbank(a) ft/sec	500-Year Flood Channel ft/sec	500-Year Flood Overbank(a) ft/sec
Cross Section No.					
Darby Creek					
11	375+10	9.5	4.4	10.7	5.1
16	515+85	15.3	6.2	18.5	9.0
28	810+00	12.2	5.5	15.9	7.4
34	979+40	11.1	3.2	7.1	2.8
38	1096+50	12.5	5.5	13.8	6.1
Muckinipattis Creek					
41	58+80	9.8	2.7	11.9	3.7
43	98+80	10.8	4.1	5.4	2.3
47	171+40	3.3	2.0	7.5	4.4
50	268+20	11.0	4.2	12.4	4.7

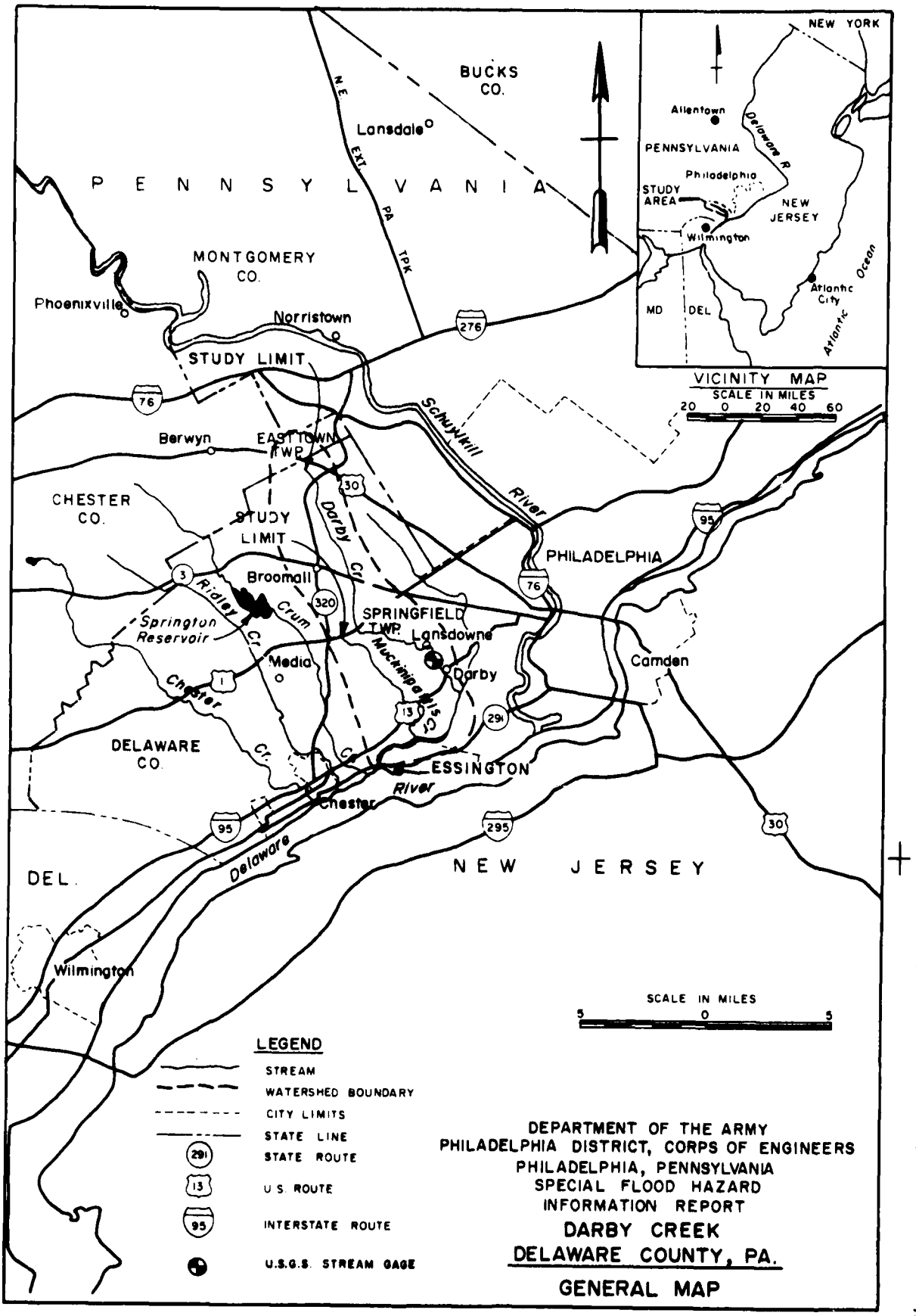
(a) Value given is maximum of left or right overbank velocity.

TABLE 5

RATES OF RISE AND DURATION OF FLOODING

USGS Gage at Darby Creek near Darby, Pa., at Providence Road

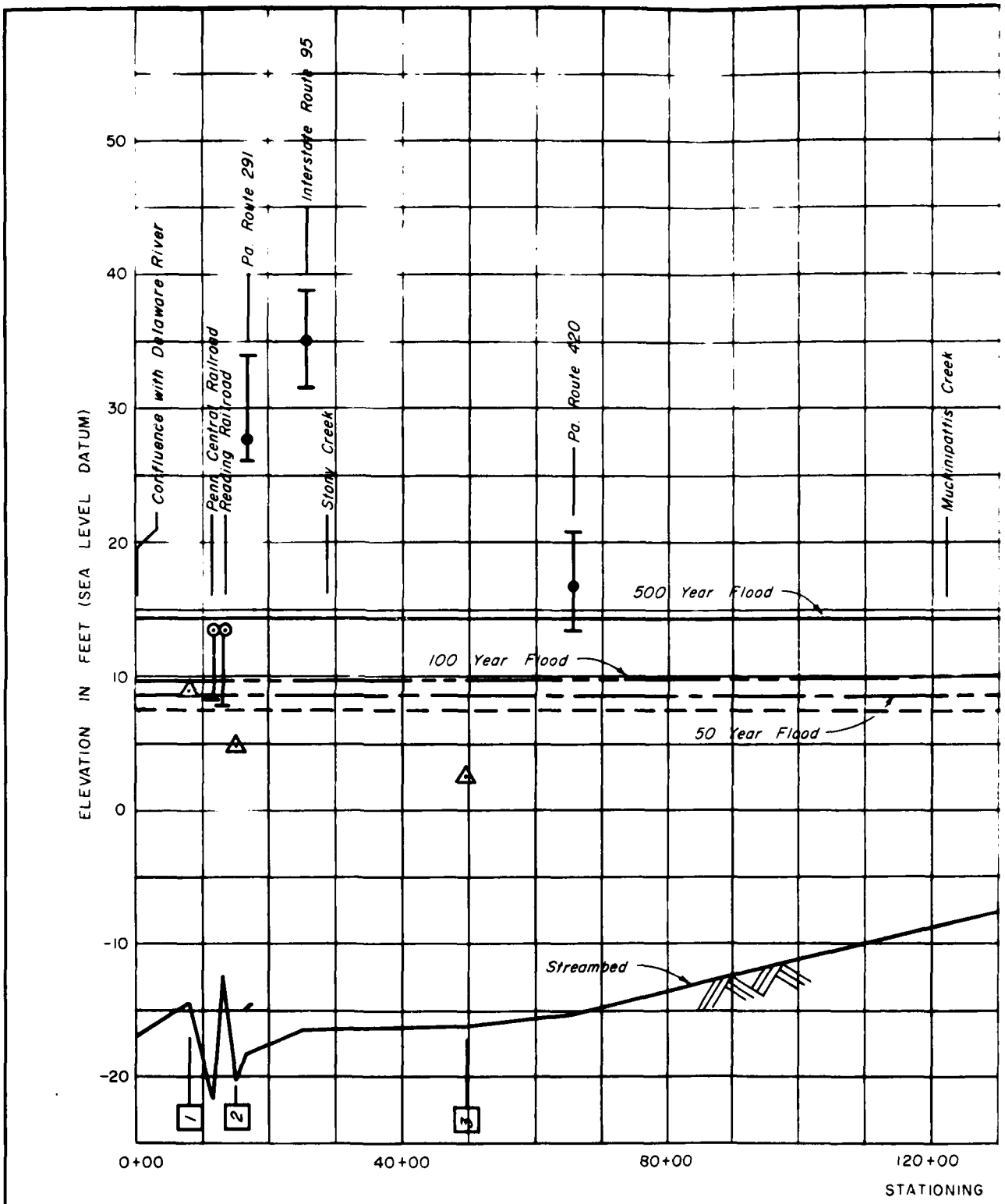
Flood	Maximum Rate of Rise ft/hr	Height of Rise ft	Time of Rise hrs	Duration of Critical Stage hrs
Darby Creek				
100-Year Flood	6.5	13.0	3.4	6.5

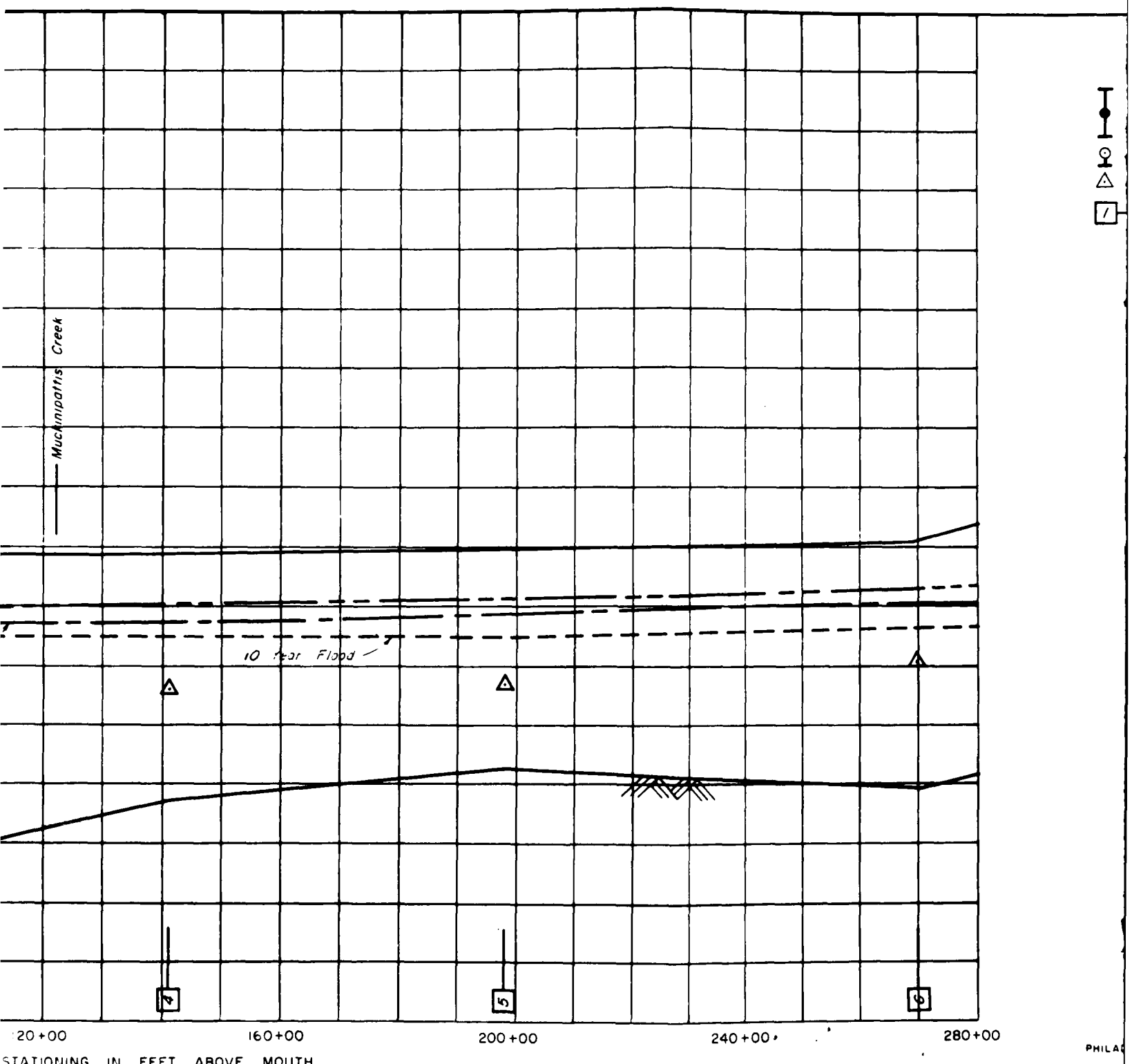


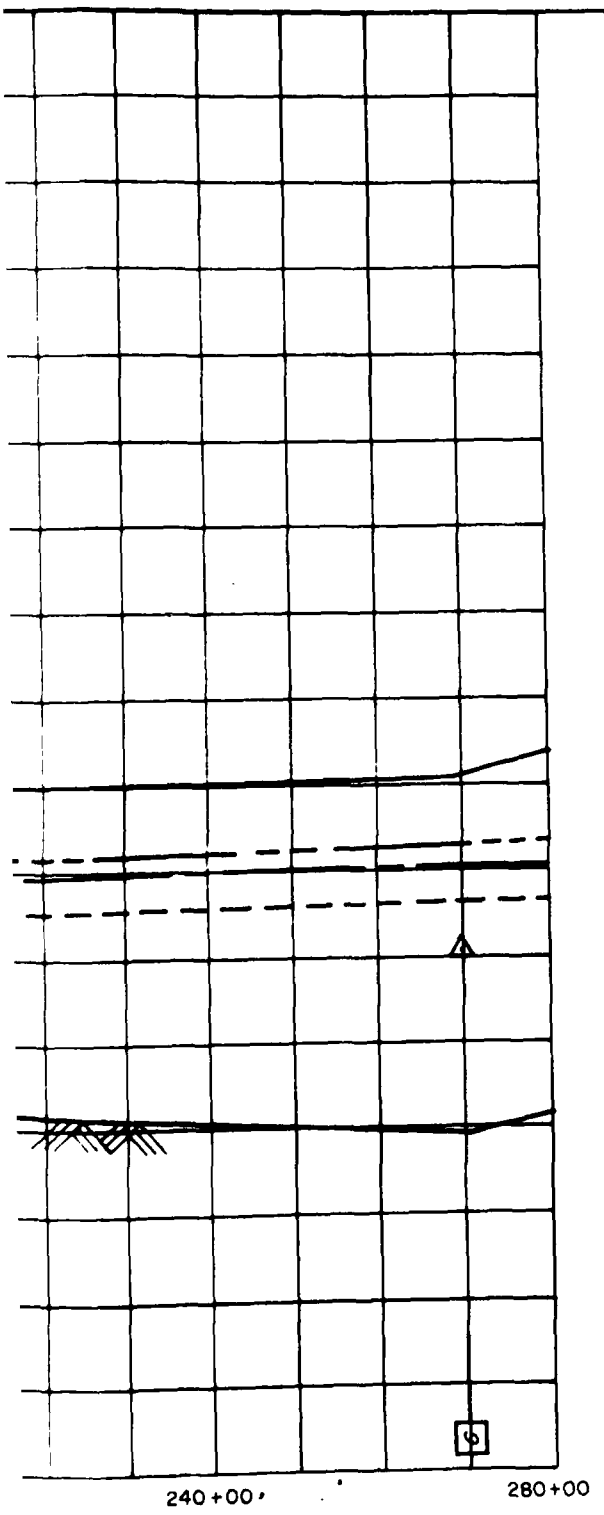
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA
SPECIAL FLOOD HAZARD
INFORMATION REPORT

DARBY CREEK
DELAWARE COUNTY, PA.
GENERAL MAP

PLATE 1


Confluence with Delaware River
Penn Central Railroad
Reading Railroad
Pa. Route 291
Interstate Route 95
Stony Creek
Pa. Route 420
Muckinipattis Creek
500 Year Flood
100 Year Flood
50 Year Flood
Streambed
ELEVATION IN FEET (SEA LEVEL DATUM)
50
40
30
20
10
0
-10
-20
1
2
3
0+00
40+00
80+00
120+00
STATIONING


Muckinipattis Creek
10 Year Flood
4
5
6
120+00
160+00
200+00
240+00
280+00
STATIONING IN FEET ABOVE MOUTH



LEGEND

- Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (R.R. Bridge)
- Top of Low Bank
- Cross Section

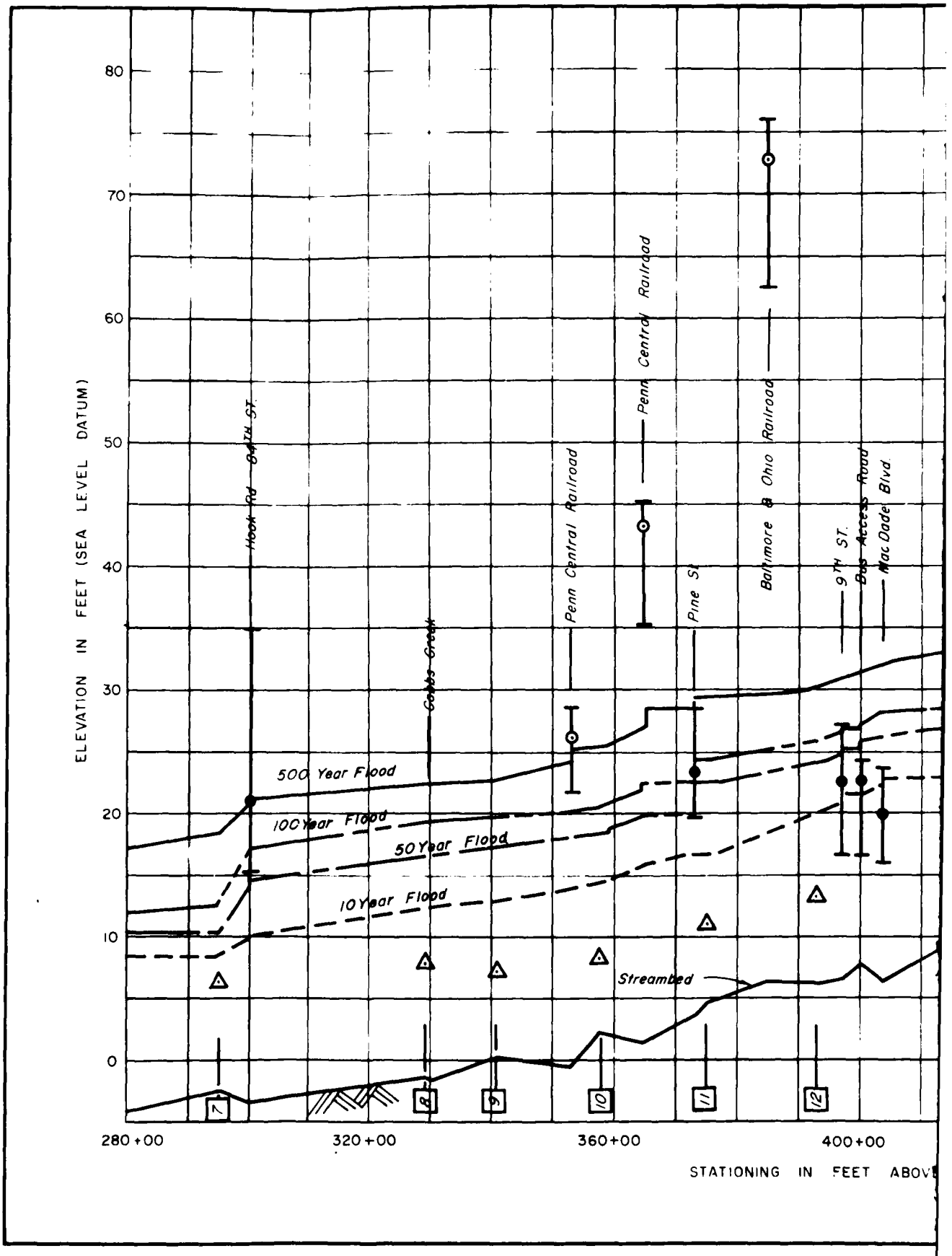
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

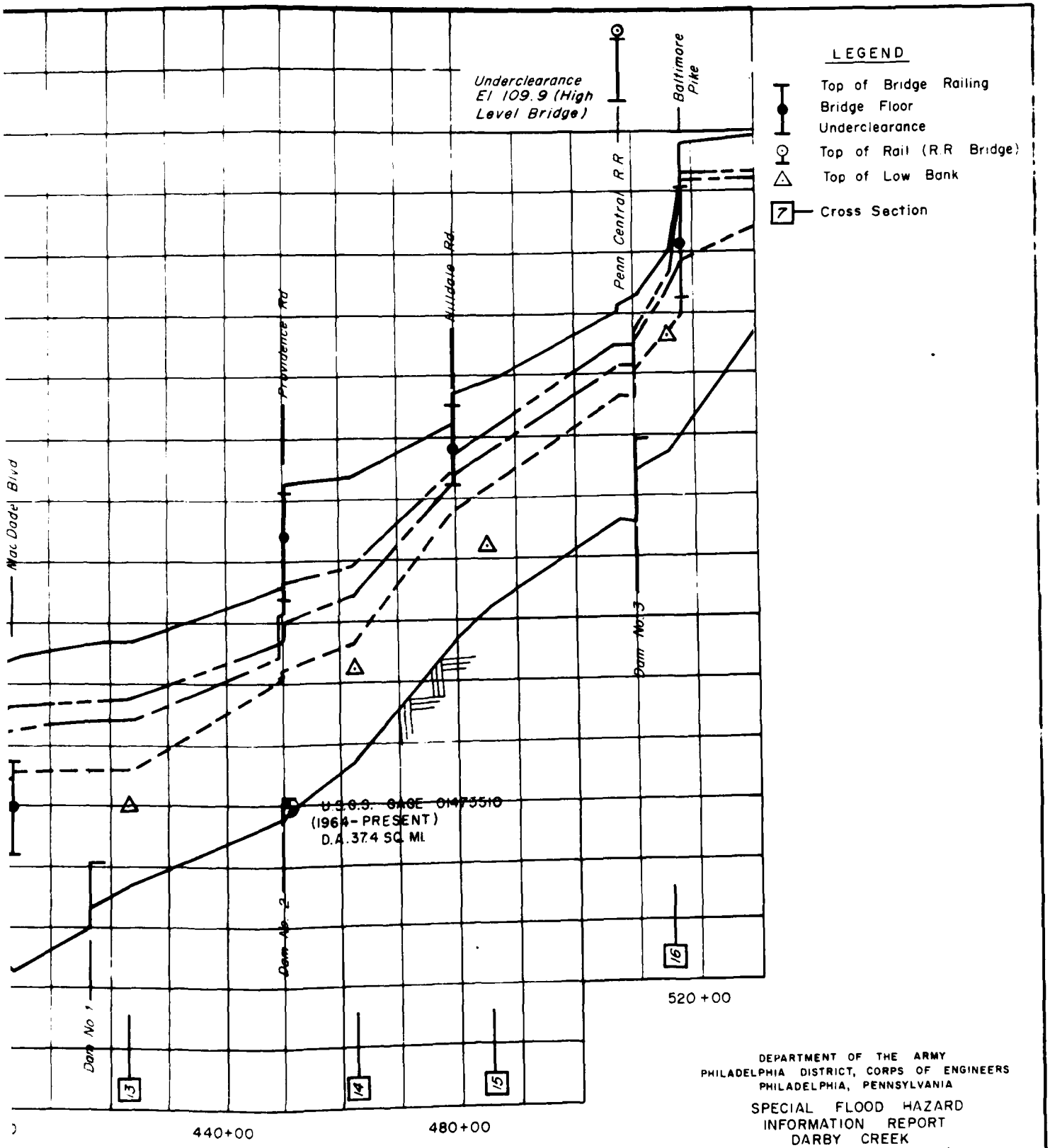
SPECIAL FLOOD HAZARD
INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

3

HIGH WATER PROFILE
DARBY CREEK

PLATE 2


ELEVATION IN FEET (SEA LEVEL DATUM)
80
70
60
50
40
30
20
10
0
Hook Rd 84TH ST.
Cobbs Creek
Penn Central Railroad
Penn Central Railroad
Pine St.
Baltimore & Ohio Railroad
9TH ST.
Bus Access Road
MacDade Blvd.
500 Year Flood
100 Year Flood
50 Year Flood
10 Year Flood
Streambed
7
8
9
10
11
12
280+00
320+00
360+00
400+00
STATIONING IN FEET ABOV

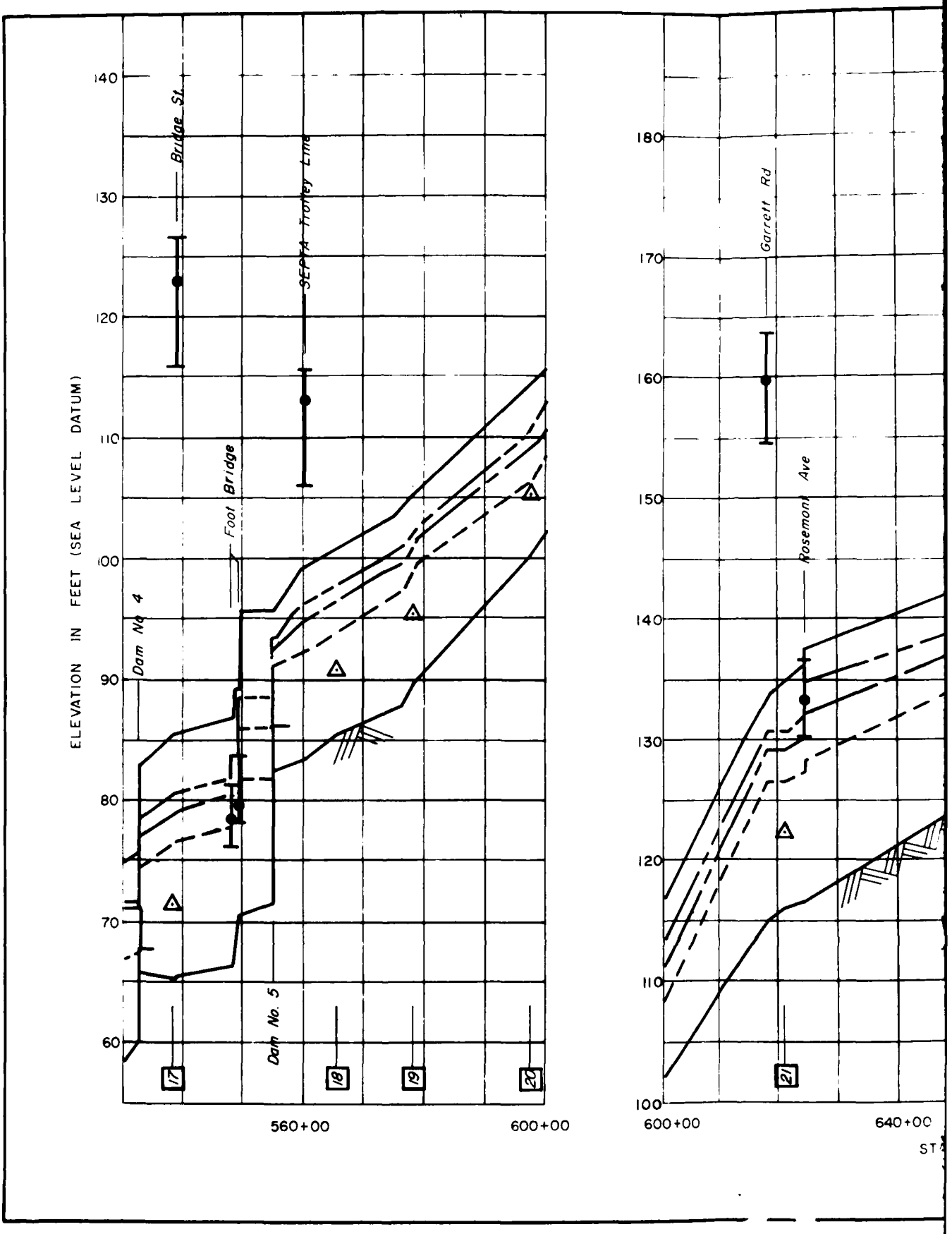


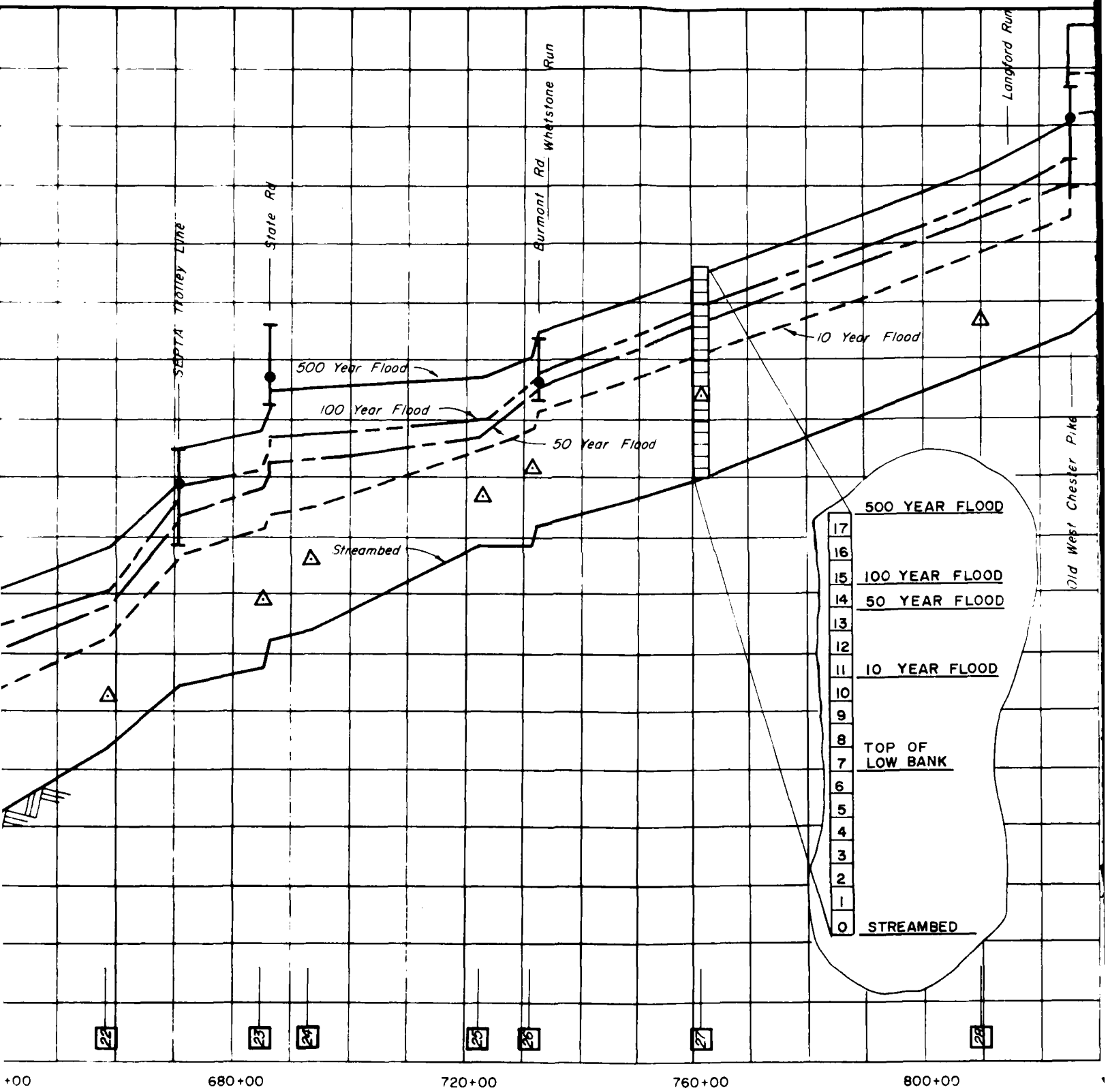
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

SPECIAL FLOOD HAZARD
INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA

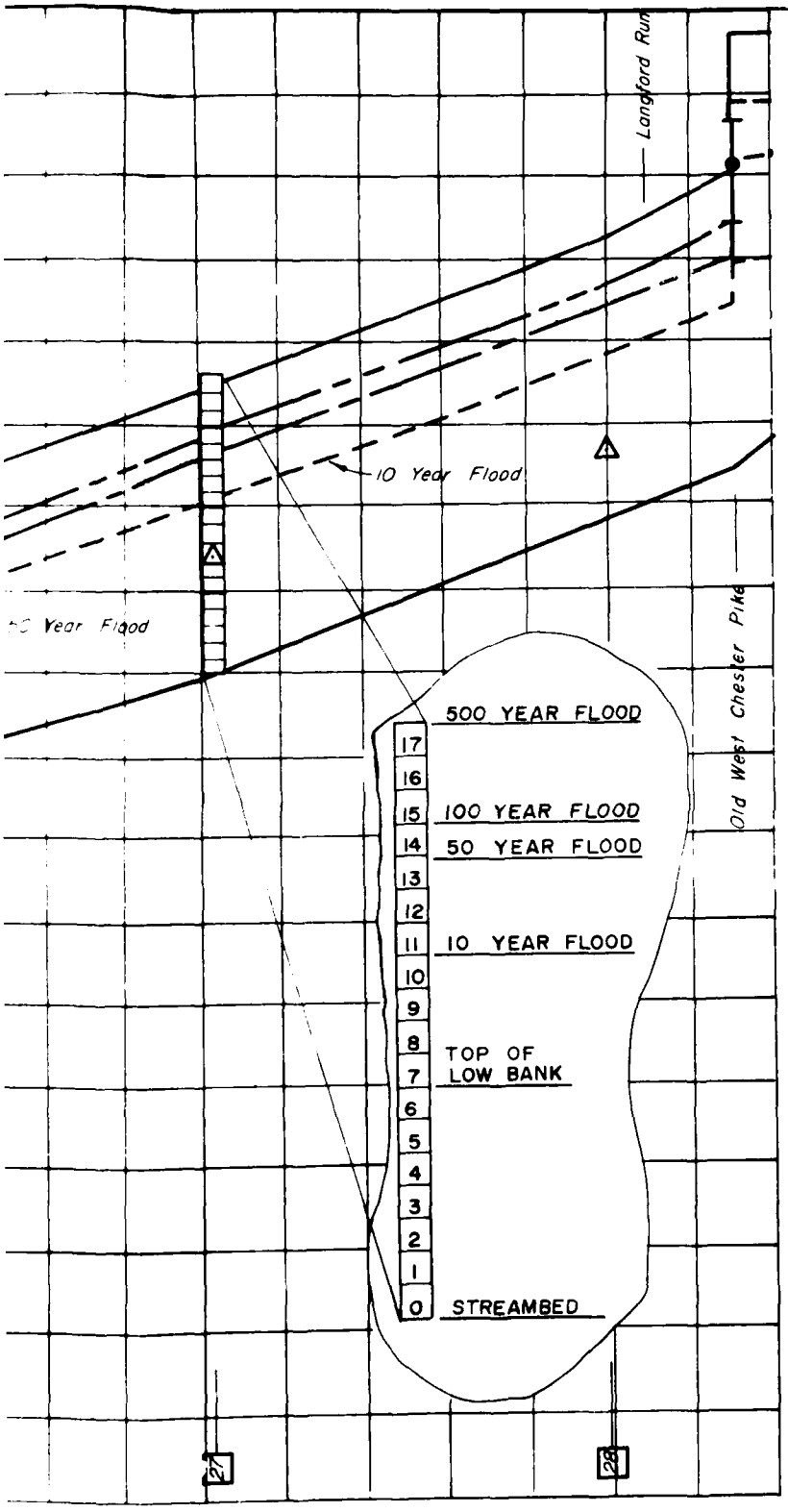
HIGH WATER PROFILE
DARBY CREEK

PLATE 3


ELEVATION IN FEET (SEA LEVEL DATUM)
140
130
120
110
100
90
80
70
60
Bridge St.
SEPTA Trolley Line
Foot Bridge
Dam No 4
Dam No. 5
17
18
19
20
560+00
600+00
180
170
160
150
140
130
120
110
100
Garrett Rd
Rosemont Ave
21
600+00
640+00
ST


SEPTA Trolley Line
State Rd
Burmont Rd
Whetstone Run
Langford Run
Old West Chester Pike
500 Year Flood
100 Year Flood
50 Year Flood
10 Year Flood
Streambed
500 YEAR FLOOD
100 YEAR FLOOD
50 YEAR FLOOD
10 YEAR FLOOD
TOP OF LOW BANK
STREAMBED
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
0
22
23
24
25
26
27
28
+00
680+00
720+00
760+00
800+00
STATIONING IN FEET ABOVE MOUTH

2



LEGEND

- Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Low Bank
- 17 — Cross Section

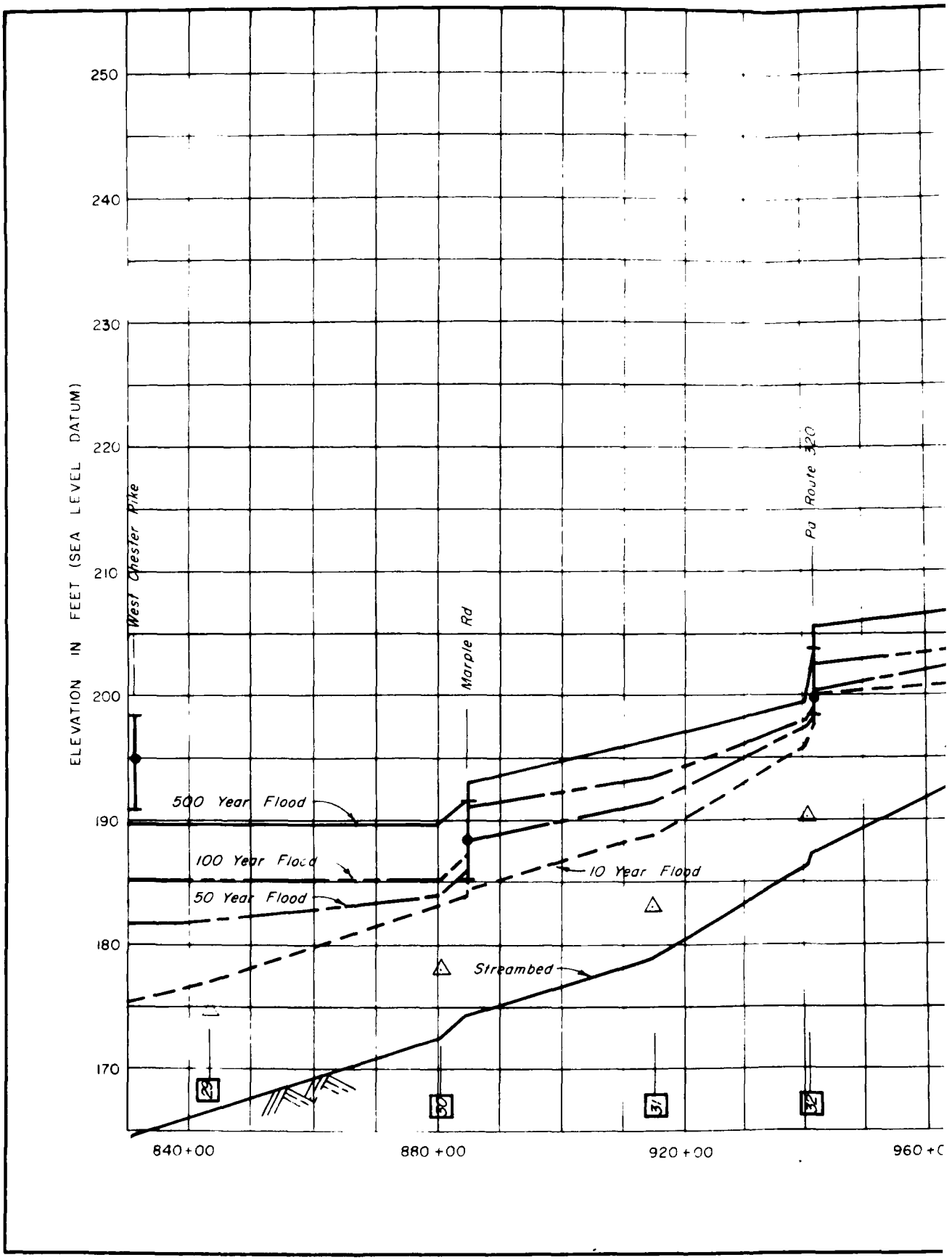
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

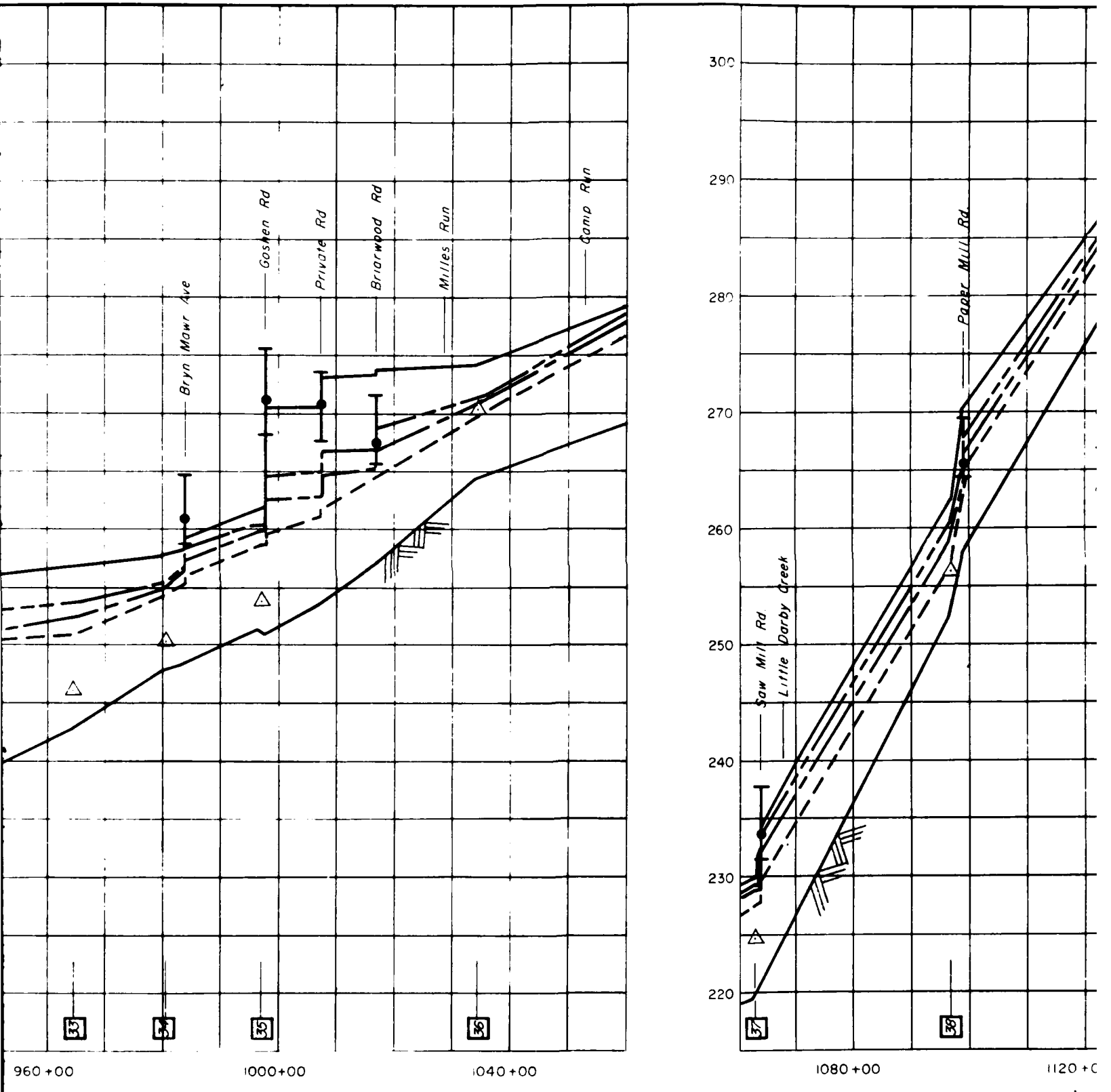
SPECIAL FLOOD HAZARD INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

3

HIGH WATER PROFILE
DARBY CREEK

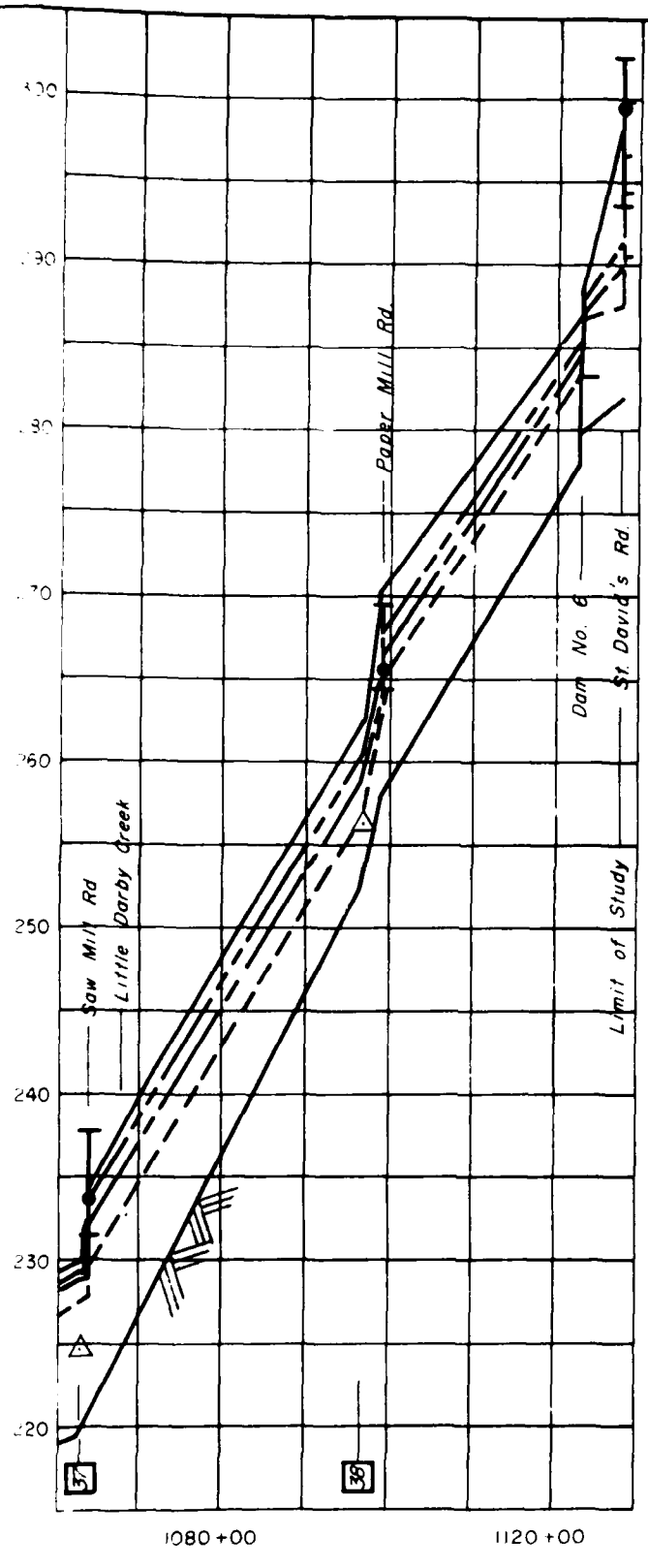
PLATE 4


250
240
230
220
210
200
190
180
170
ELEVATION IN FEET (SEA LEVEL DATUM)
West Chester Pike
Marple Rd
Pa Route 320
500 Year Flood
100 Year Flood
50 Year Flood
10 Year Flood
Streambed
840+00
880+00
920+00
960+0



STATIONING IN FEET ABOVE MOUTH

2



LEGEND

- Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (R R Bridge)
- Top of Low Bank
- 29 — Cross Section

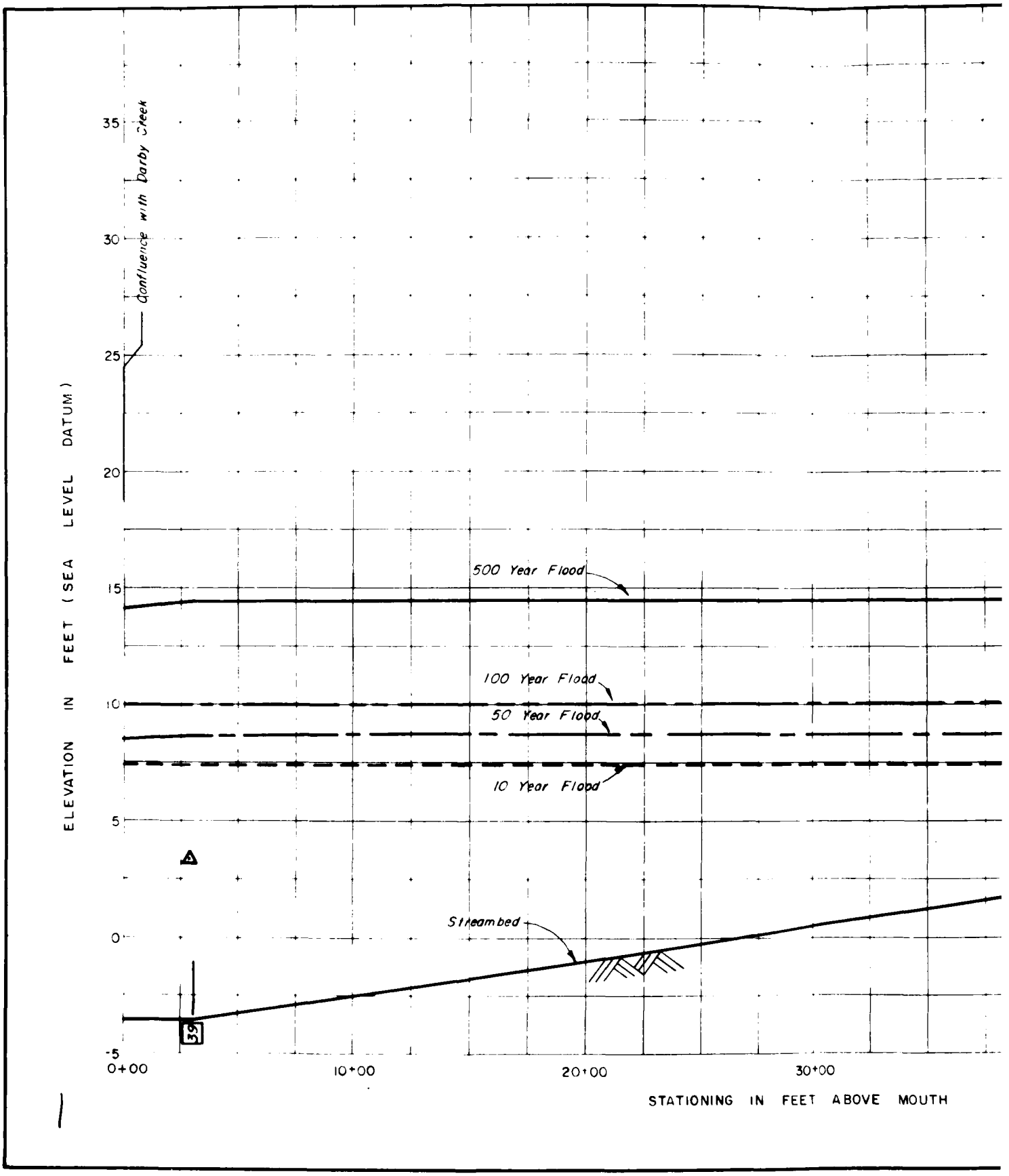
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

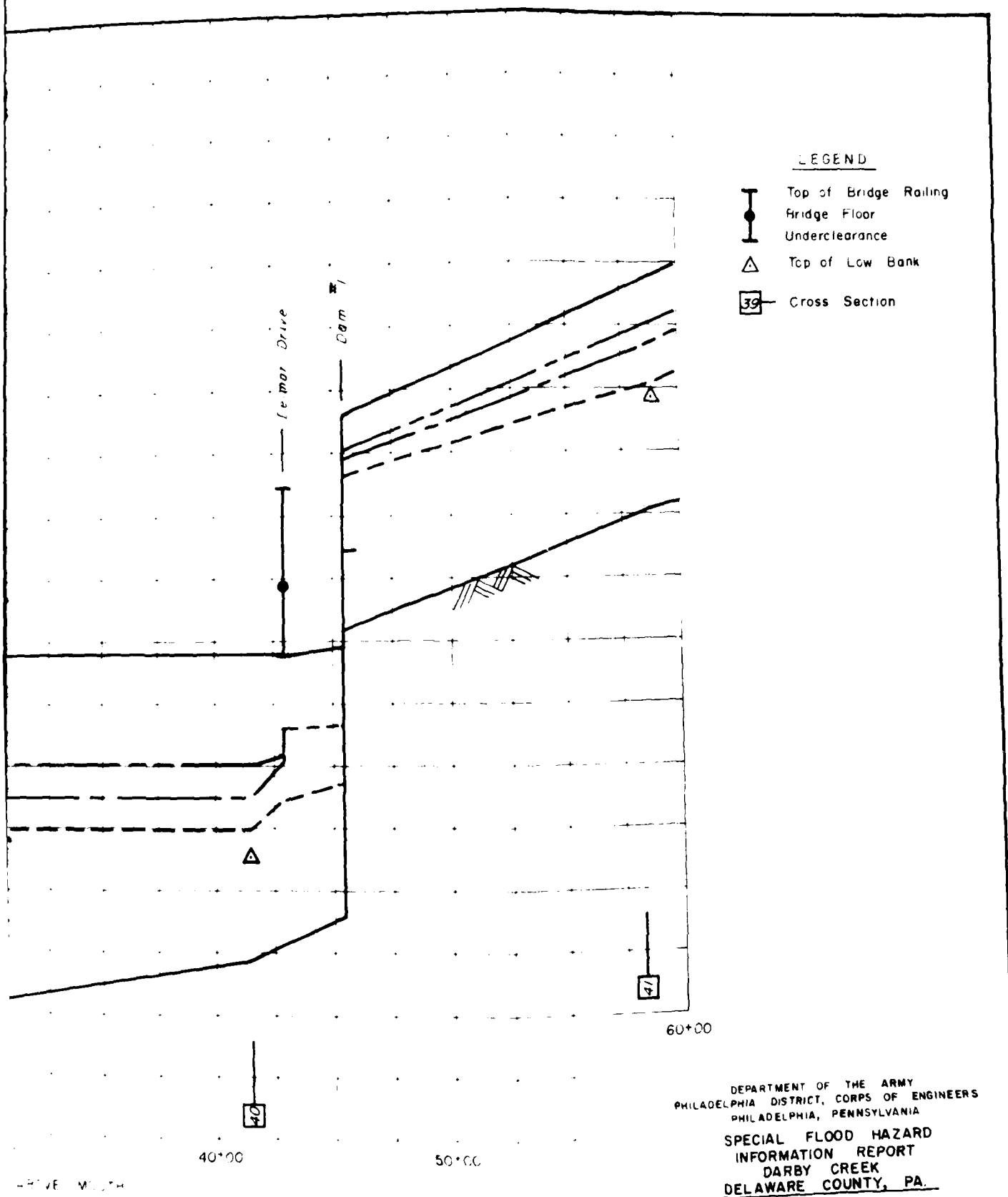
SPECIAL FLOOD HAZARD INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

3

HIGH WATER PROFILE DARBY CREEK

PLATE 5


ELEVATION IN FEET (SEA LEVEL DATUM)
35
30
25
20
15
10
5
0
-5
Confluence with Darby Creek
500 Year Flood
100 Year Flood
50 Year Flood
10 Year Flood
Streambed
39
0+00
10+00
20+00
30+00
STATIONING IN FEET ABOVE MOUTH

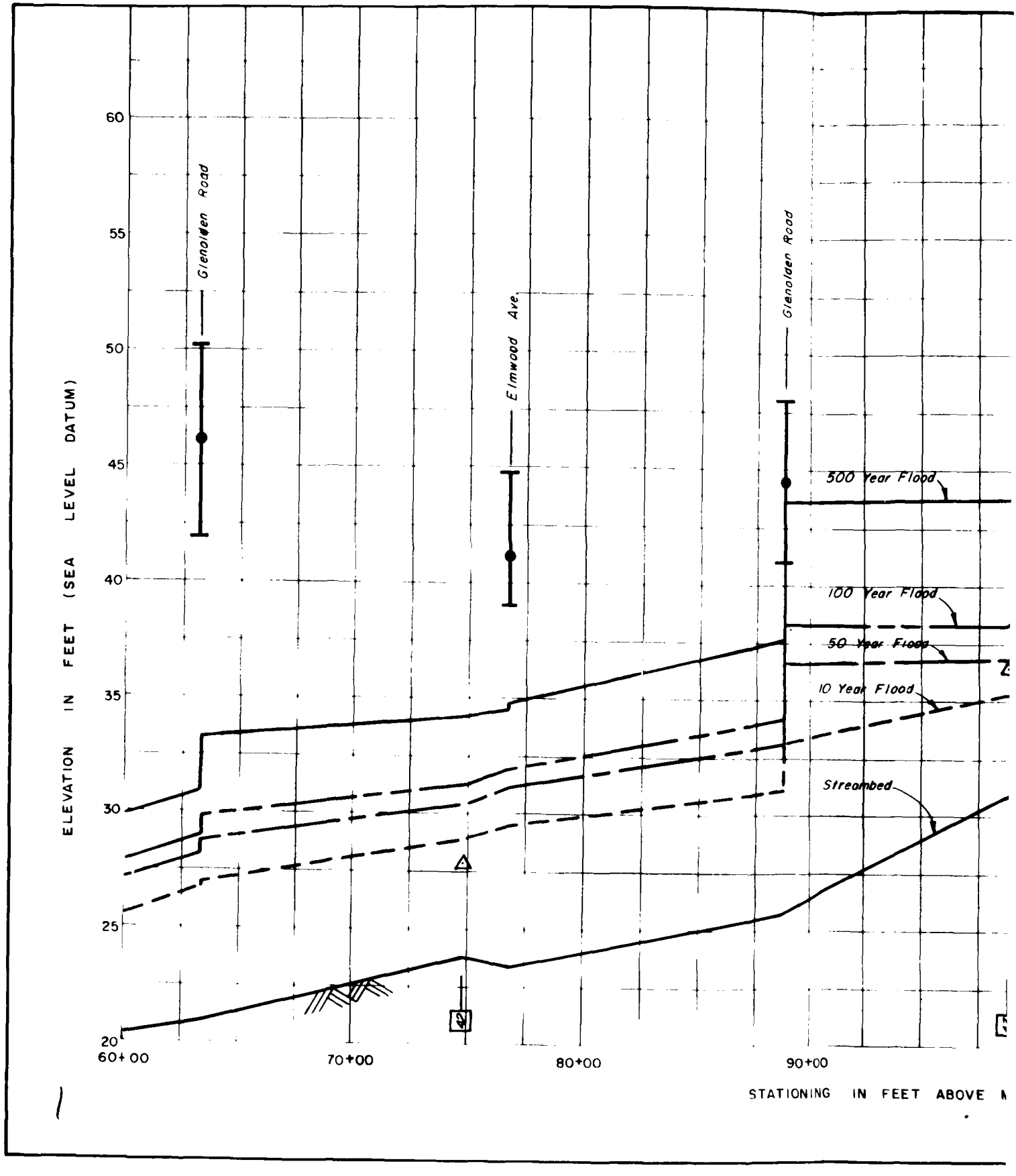


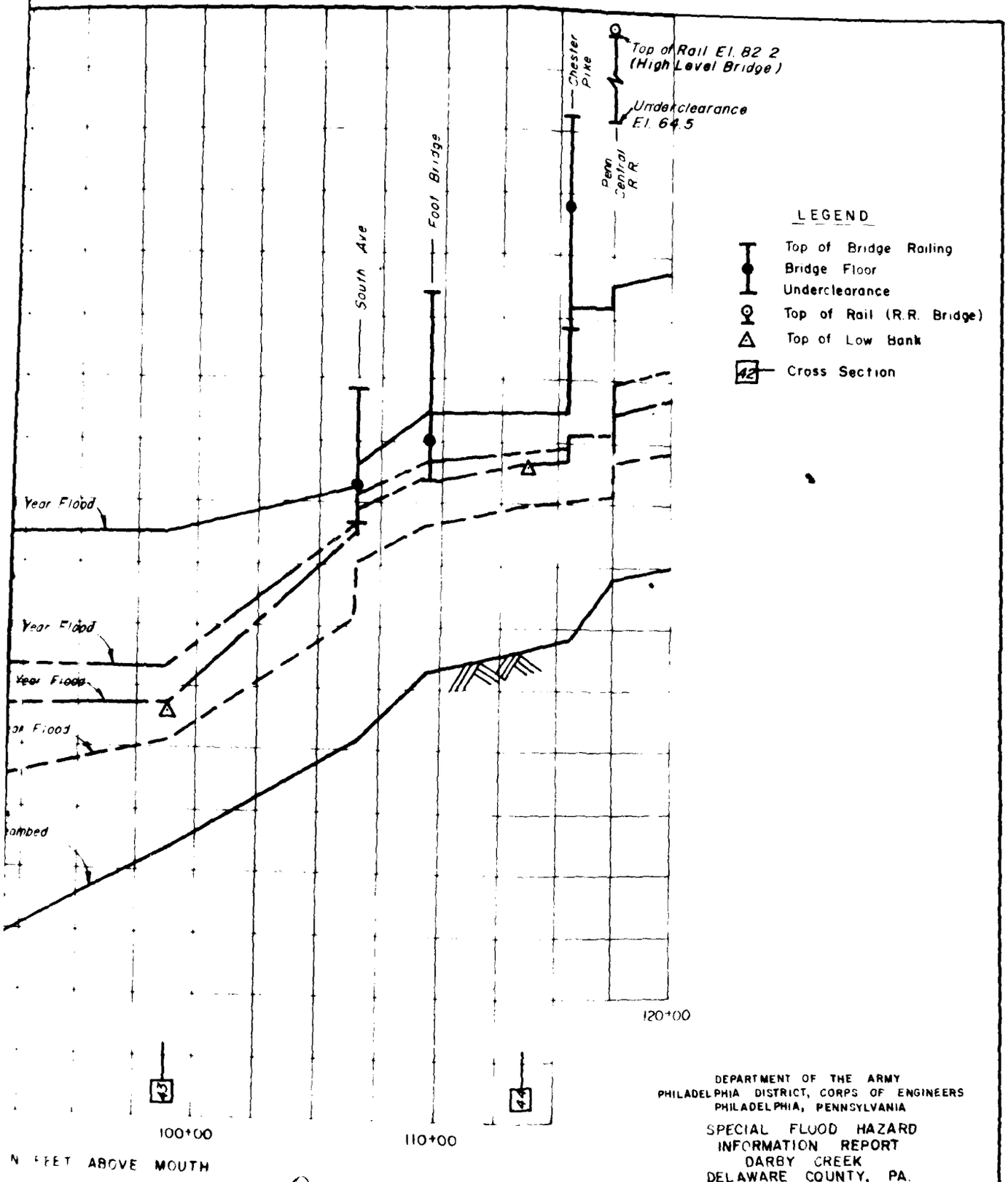
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

SPECIAL FLOOD HAZARD
INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

HIGH WATER PROFILE
MUCKINIPATTIS CREEK

PLATE 6


ELEVATION IN FEET (SEA LEVEL DATUM)
60
55
50
45
40
35
30
25
20
Glenolden Road
Elmwood Ave.
Glenolden Road
500 Year Flood
100 Year Flood
50 Year Flood
10 Year Flood
Streambed
60+00
70+00
80+00
90+00
STATIONING IN FEET ABOVE

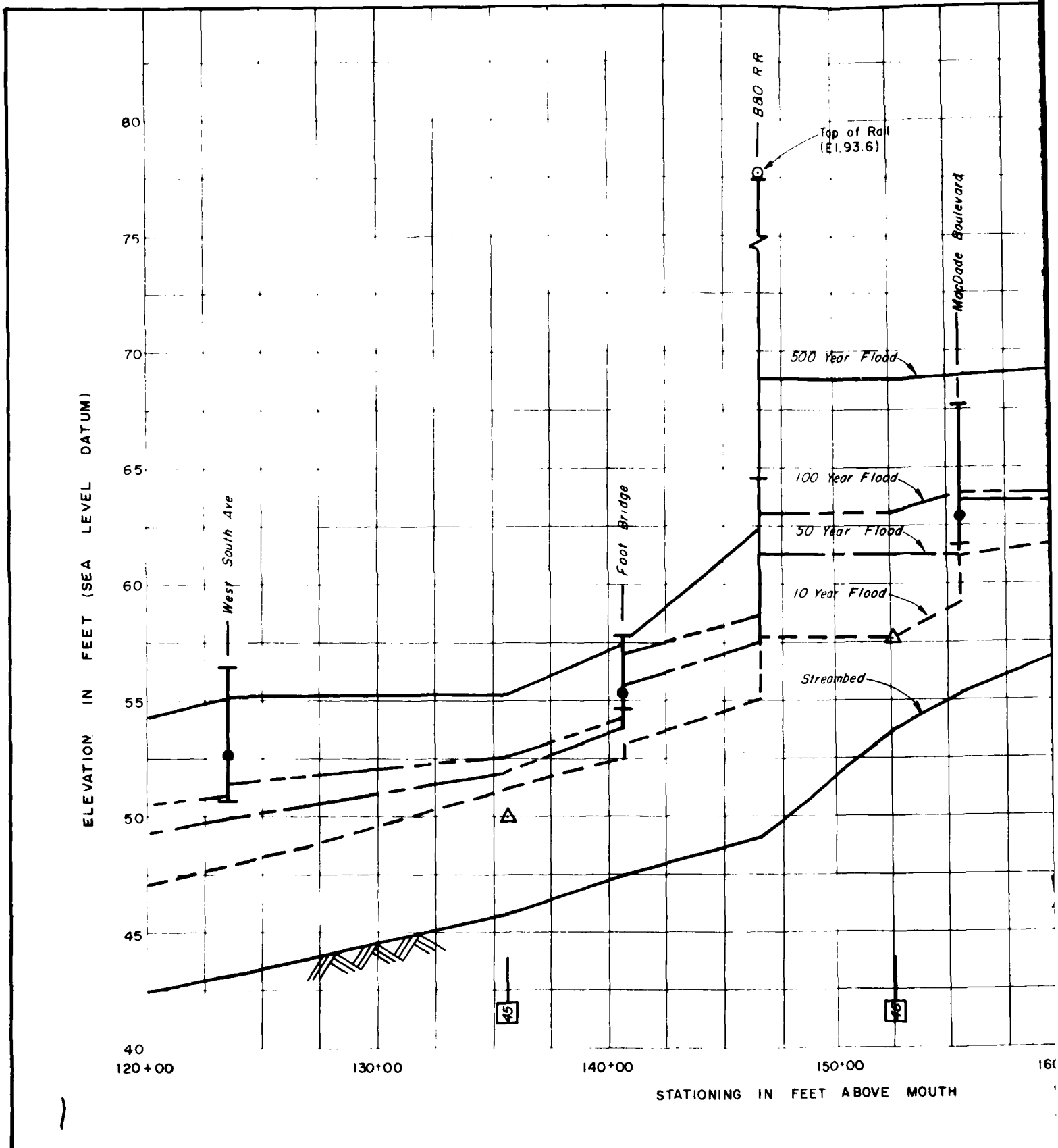


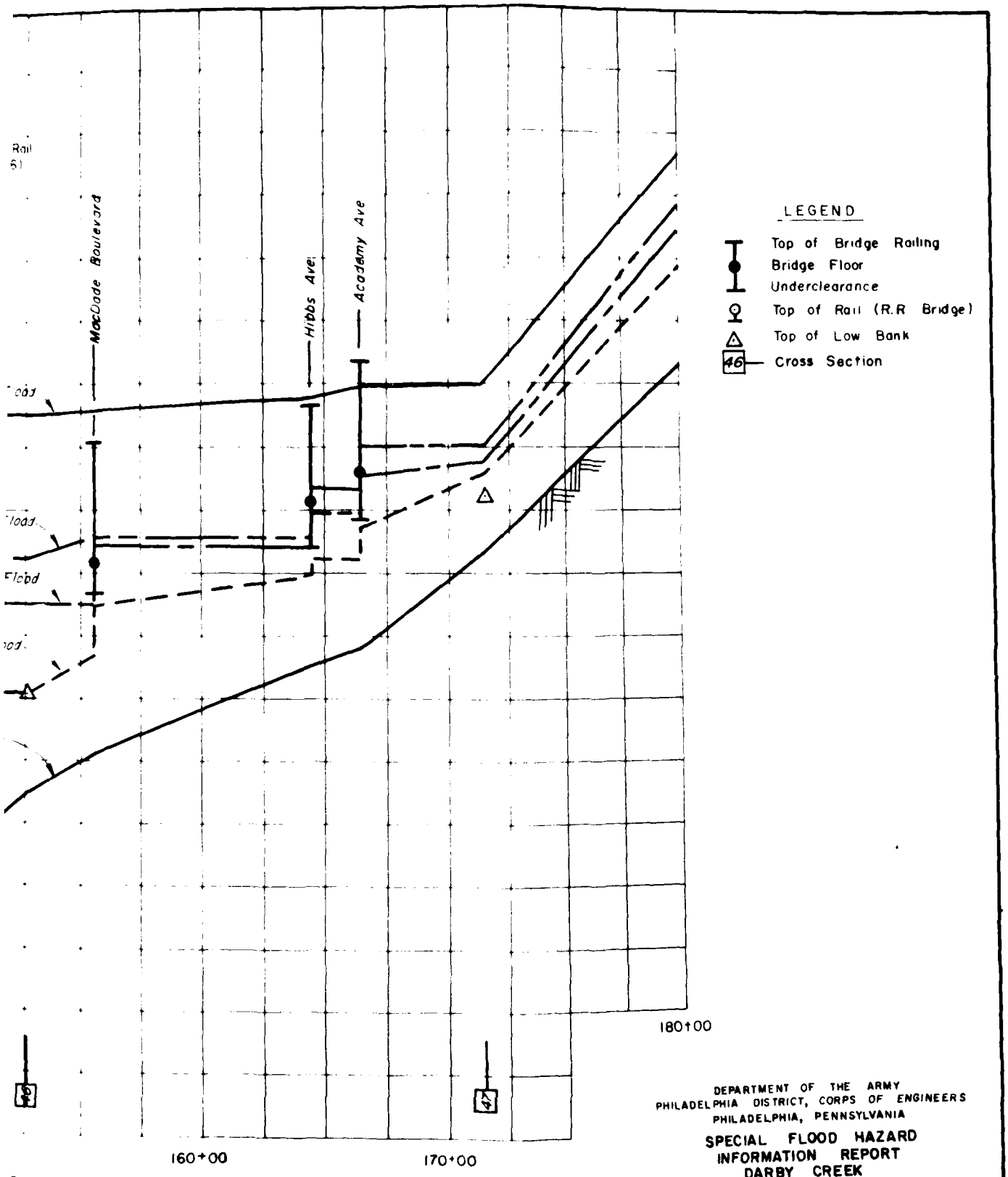
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

SPECIAL FLOOD HAZARD
INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

HIGH WATER PROFILE
MUCKINIPATTIS CREEK

PLATE 7


80
75
70
65
60
55
50
45
40
ELEVATION IN FEET (SEA LEVEL DATUM)
120+00
130+00
140+00
150+00
STATIONING IN FEET ABOVE MOUTH
West South Ave
Foot Bridge
880 RR
Top of Rail
(El. 93.6)
MacDade Boulevard
500 Year Flood
100 Year Flood
50 Year Flood
10 Year Flood
Streambed
45
45

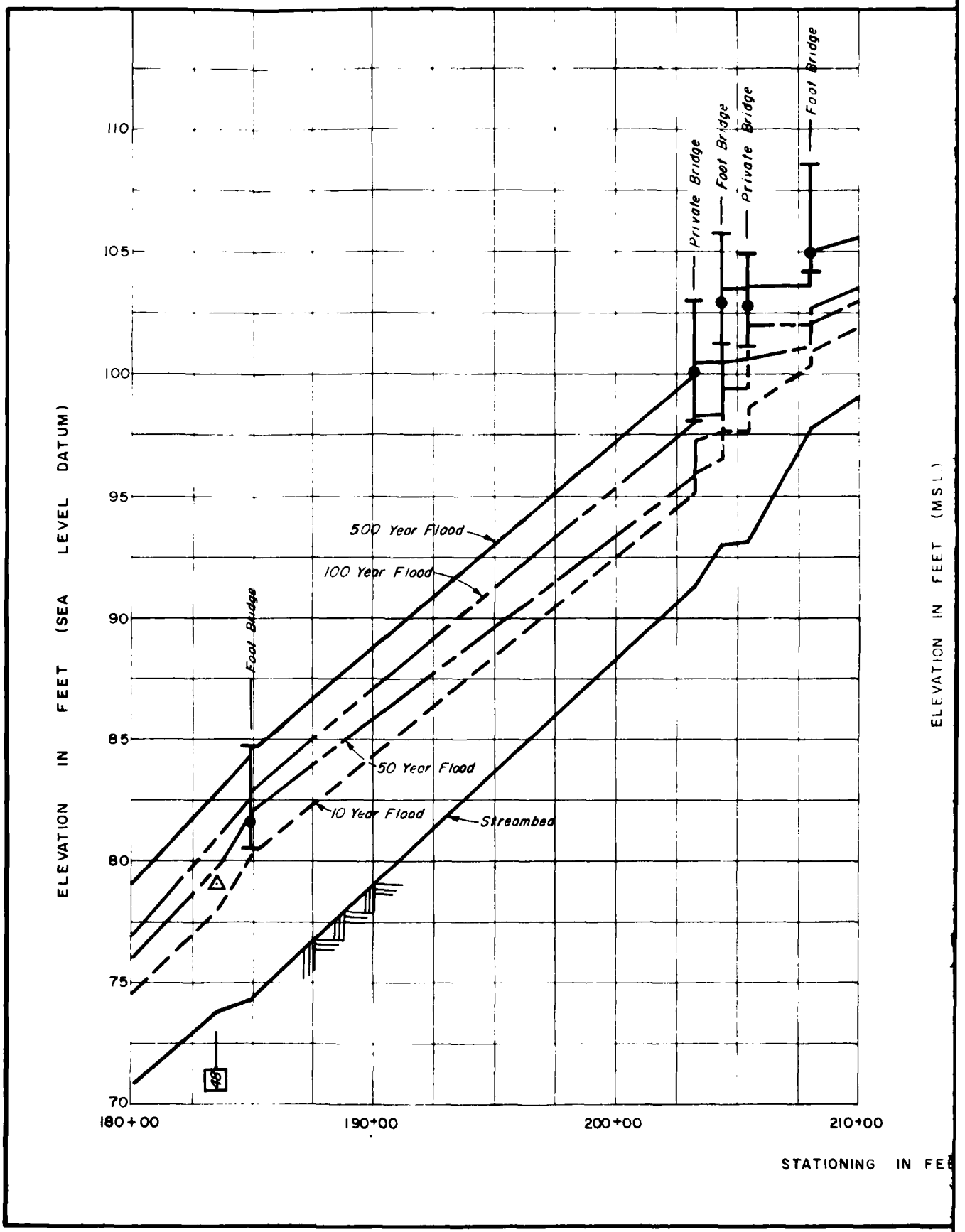


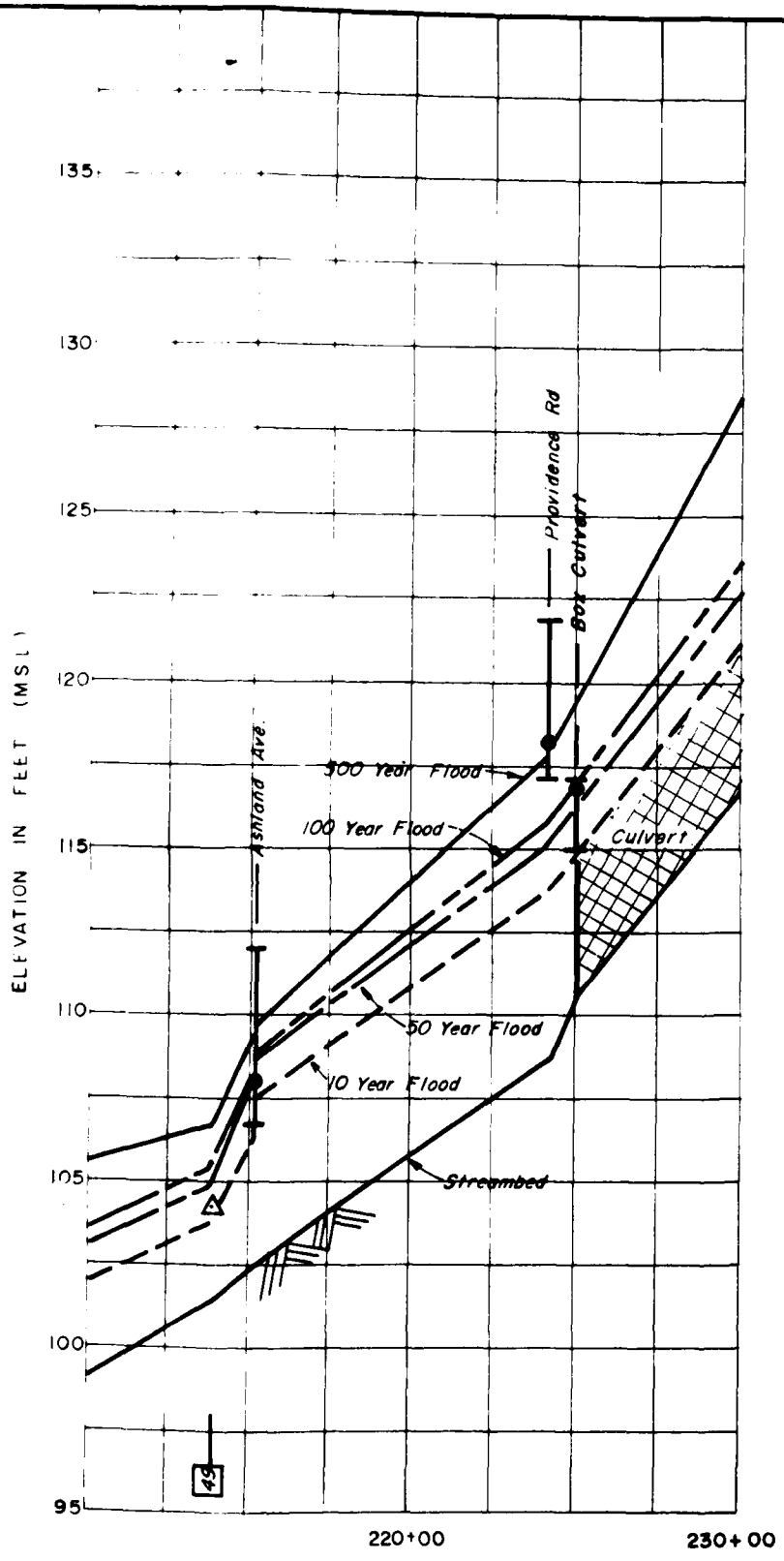
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

SPECIAL FLOOD HAZARD
INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

HIGH WATER PROFILE
MUCKINIPATTIS CREEK

PLATE 8


ELEVATION IN FEET (SEA LEVEL DATUM)
110
105
100
95
90
85
80
75
70
180+00
190+00
200+00
210+00
STATIONING IN FEET
ELEVATION IN FEET (MSL)
Private Bridge
Foot Bridge
Private Bridge
Foot Bridge
500 Year Flood
100 Year Flood
50 Year Flood
10 Year Flood
Streambed
Foot Bridge
45



LEGEND

- Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (R R. Bridge)
- Top of Low Bank
- 46 — Cross Section

)0

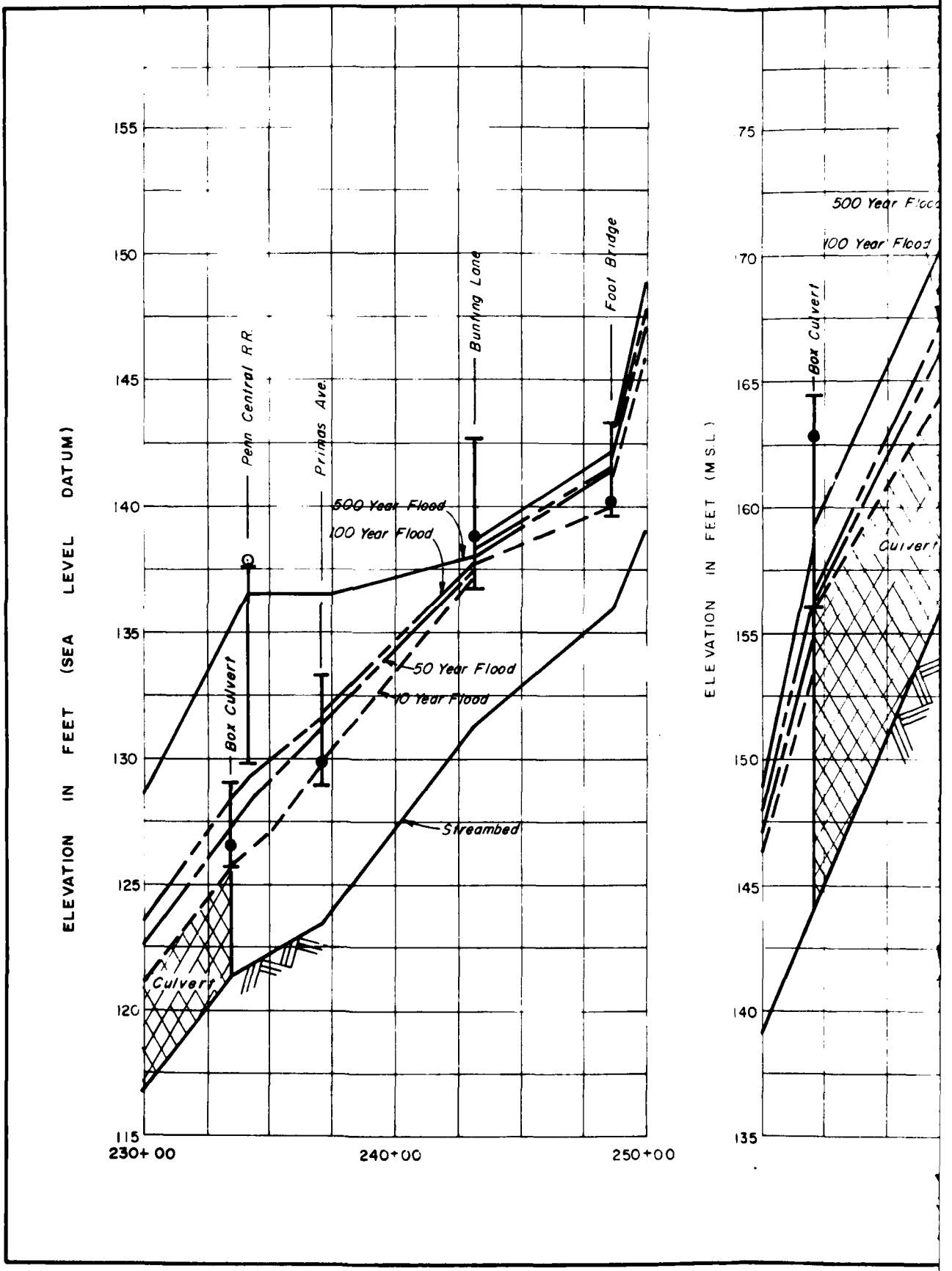
3 IN FEET ABOVE MOUTH

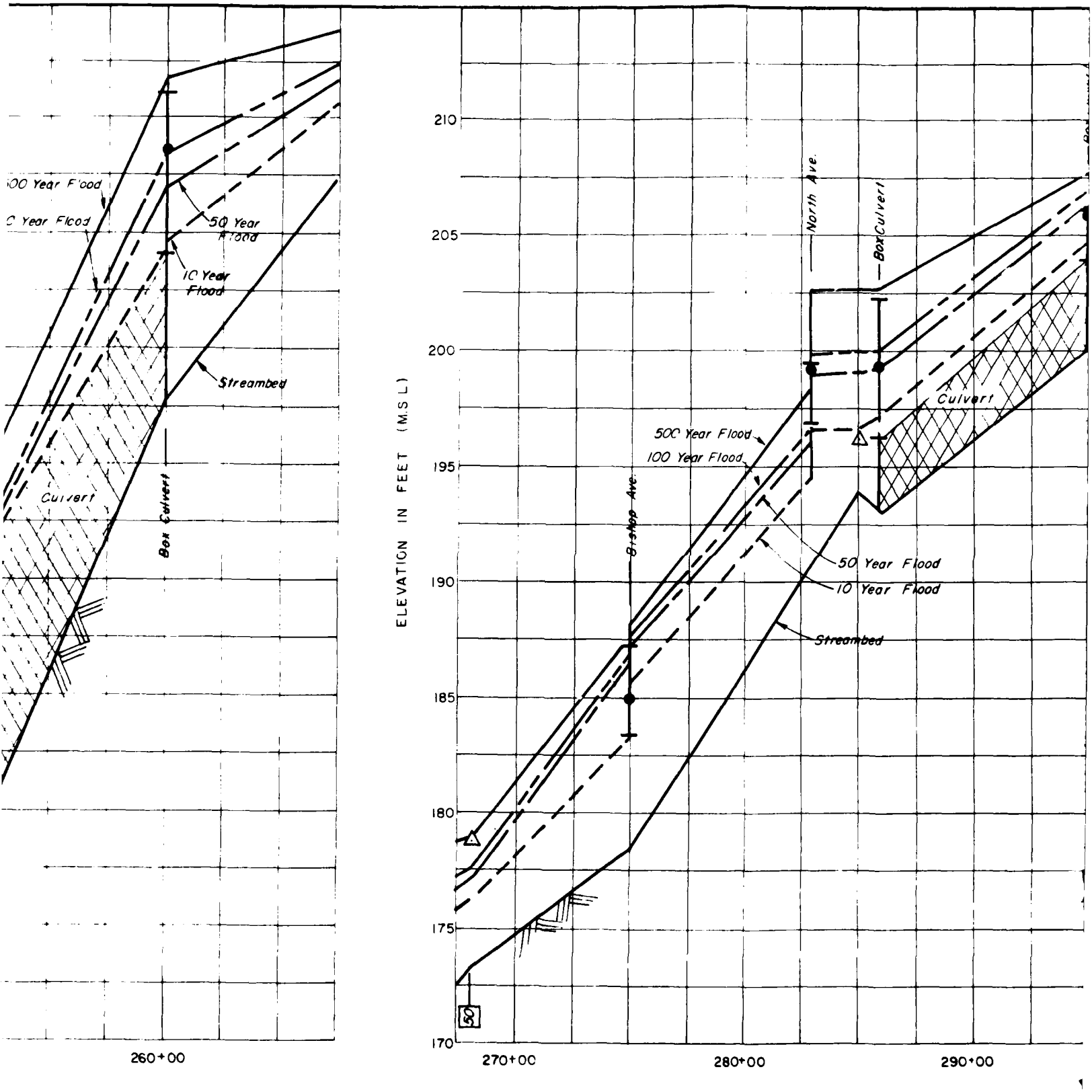
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

SPECIAL FLOOD HAZARD INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

HIGH WATER PROFILE MUCKINIPATTIS CREEK

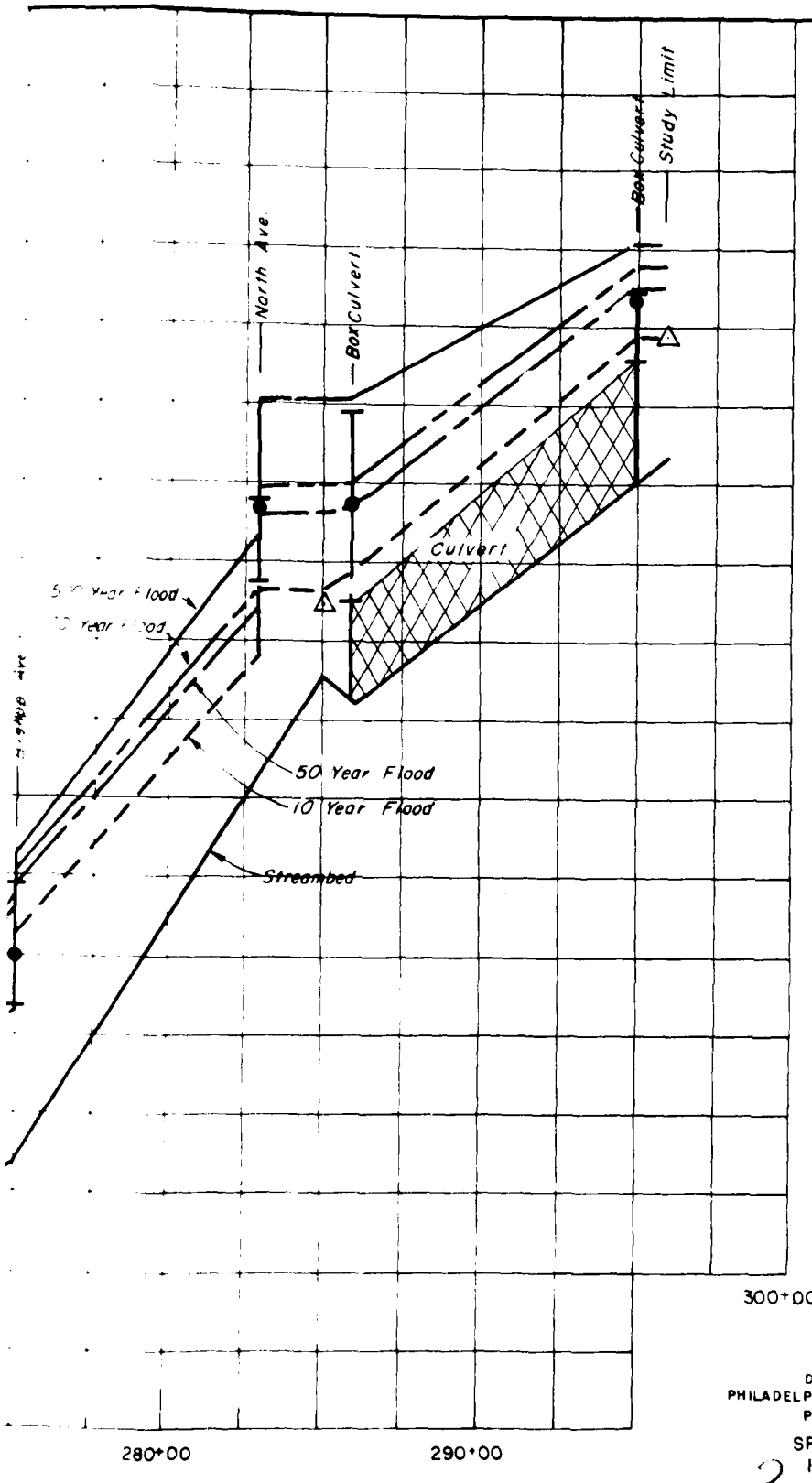
PLATE 9


ELEVATION IN FEET (SEA LEVEL DATUM)
155
150
145
140
135
130
125
120
115
230+00
240+00
250+00
Penn Central R.R.
Primas Ave.
Bunting Lane
Foot Bridge
500 Year Flood
100 Year Flood
50 Year Flood
10 Year Flood
Box Culvert
Culvert
Streambed
ELEVATION IN FEET (M.S.L.)
75
70
165
160
155
150
145
140
135
500 Year Flood
100 Year Flood
Box Culvert
Culvert



STATIONING IN FEET ABOVE MOUTH

2



LEGEND

- Top of Bridge Railing
- Bridge Floor
- Underclearance
- Top of Rail (R.R. Bridge)
- Top of Low Bank
- 50 Cross Section

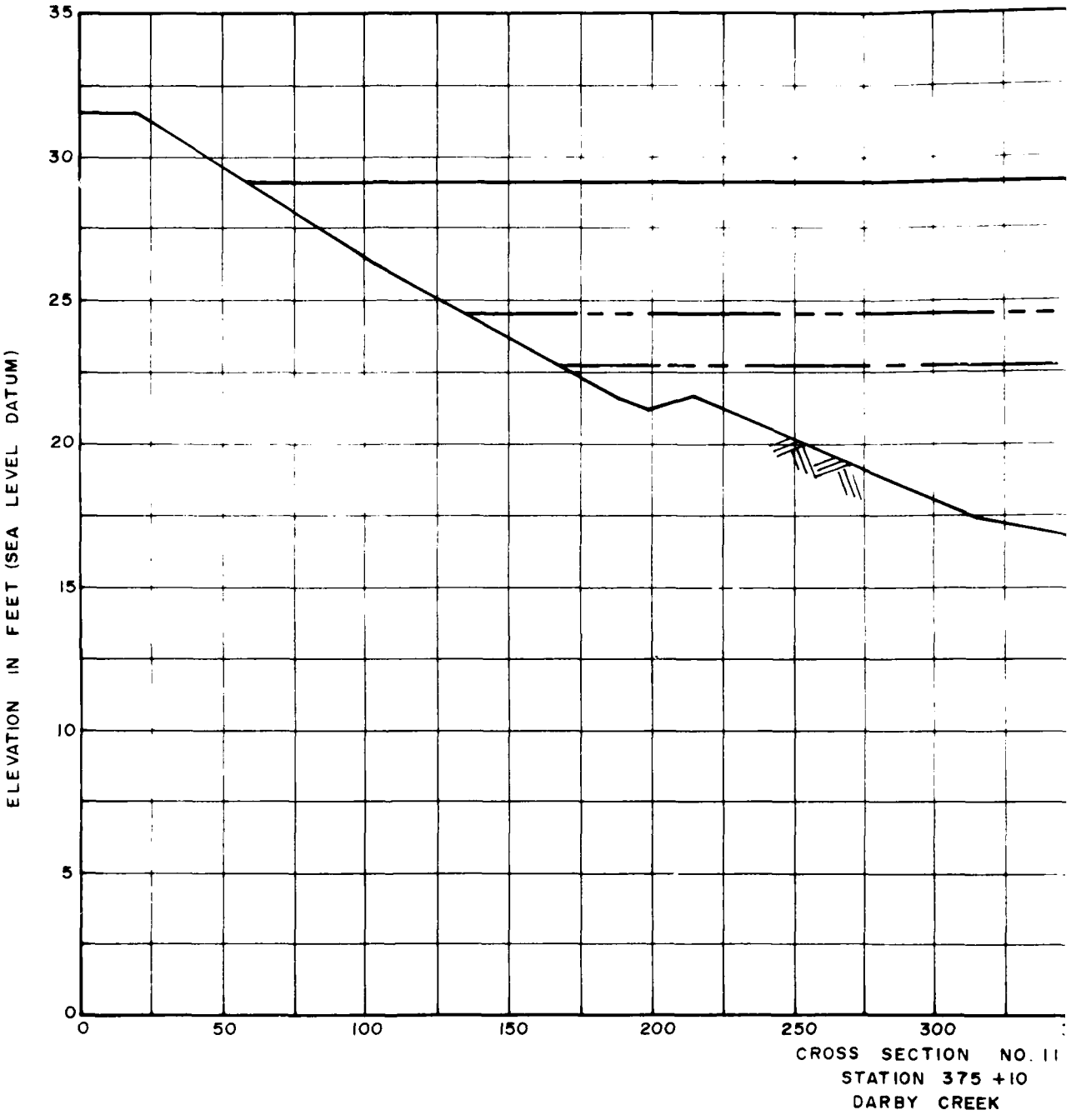
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

SPECIAL FLOOD HAZARD
INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

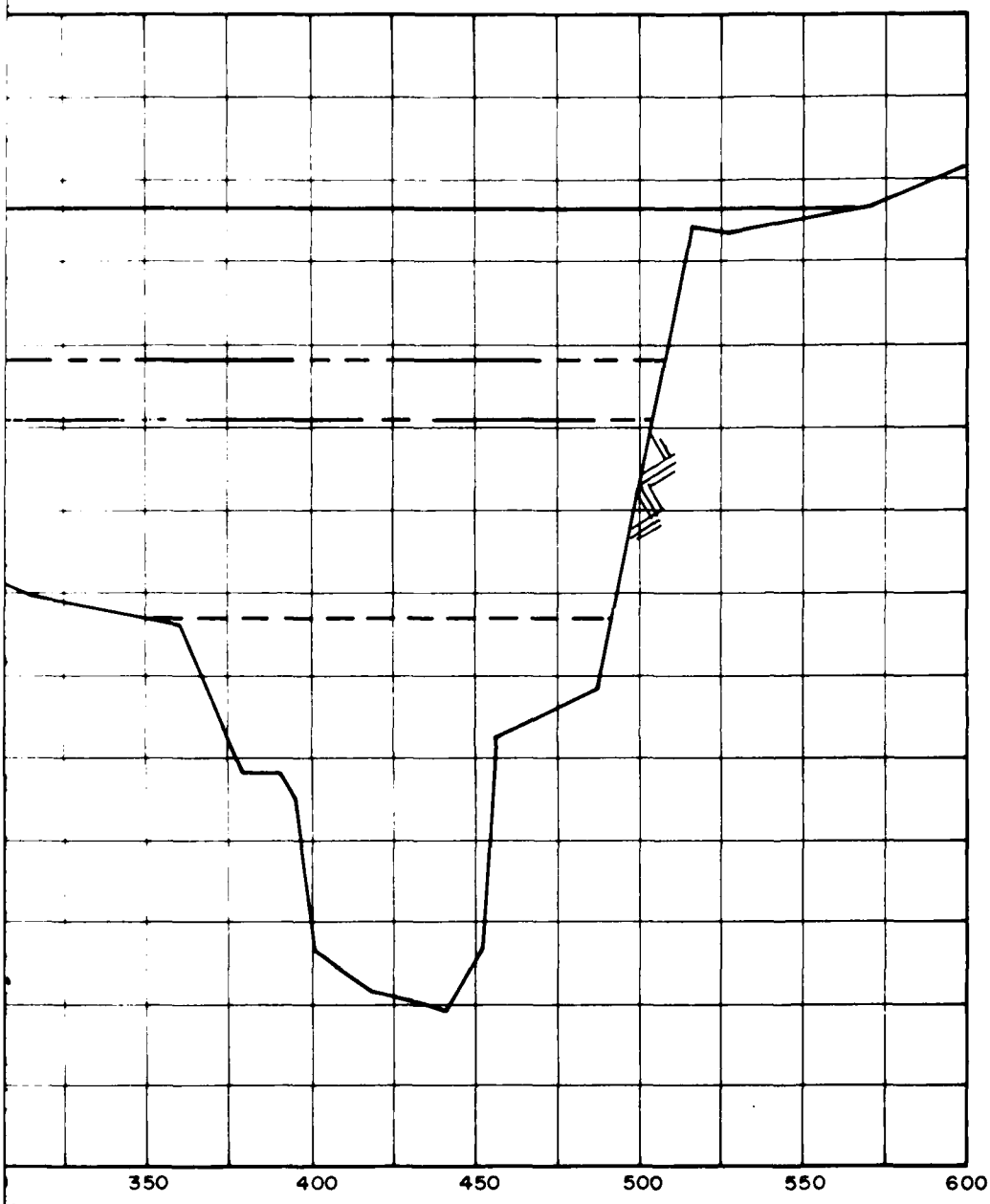
3

HIGH WATER PROFILE
MUCKINIPATTIS CREEK

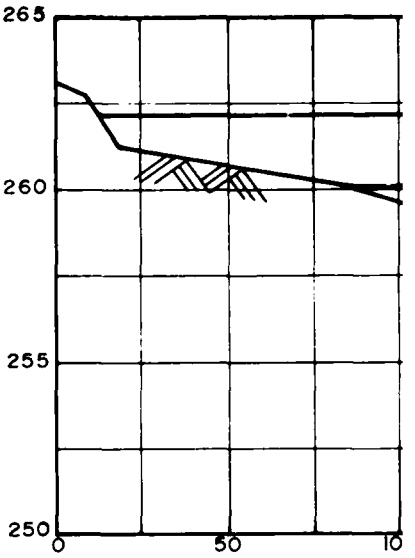
PLATE 10



CROSS SECTION NO. 11
STATION 375 +10
DARBY CREEK



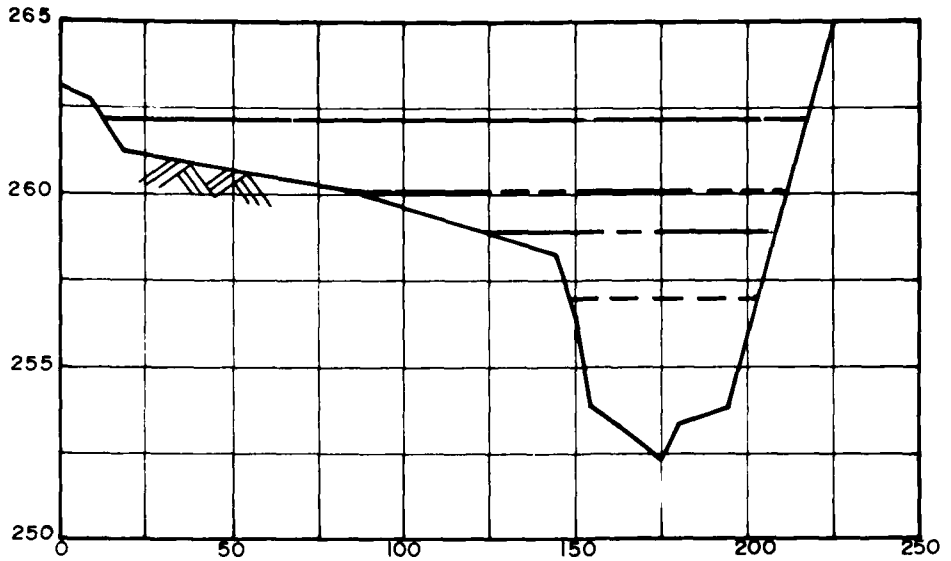
N NO. 11
75 +10
REEK



CROSS
STA1
D

STATIONING IN FEET

2



CROSS SECTION NO. 38
STATION 1096 + 50
DARBY CREEK

LEGEND

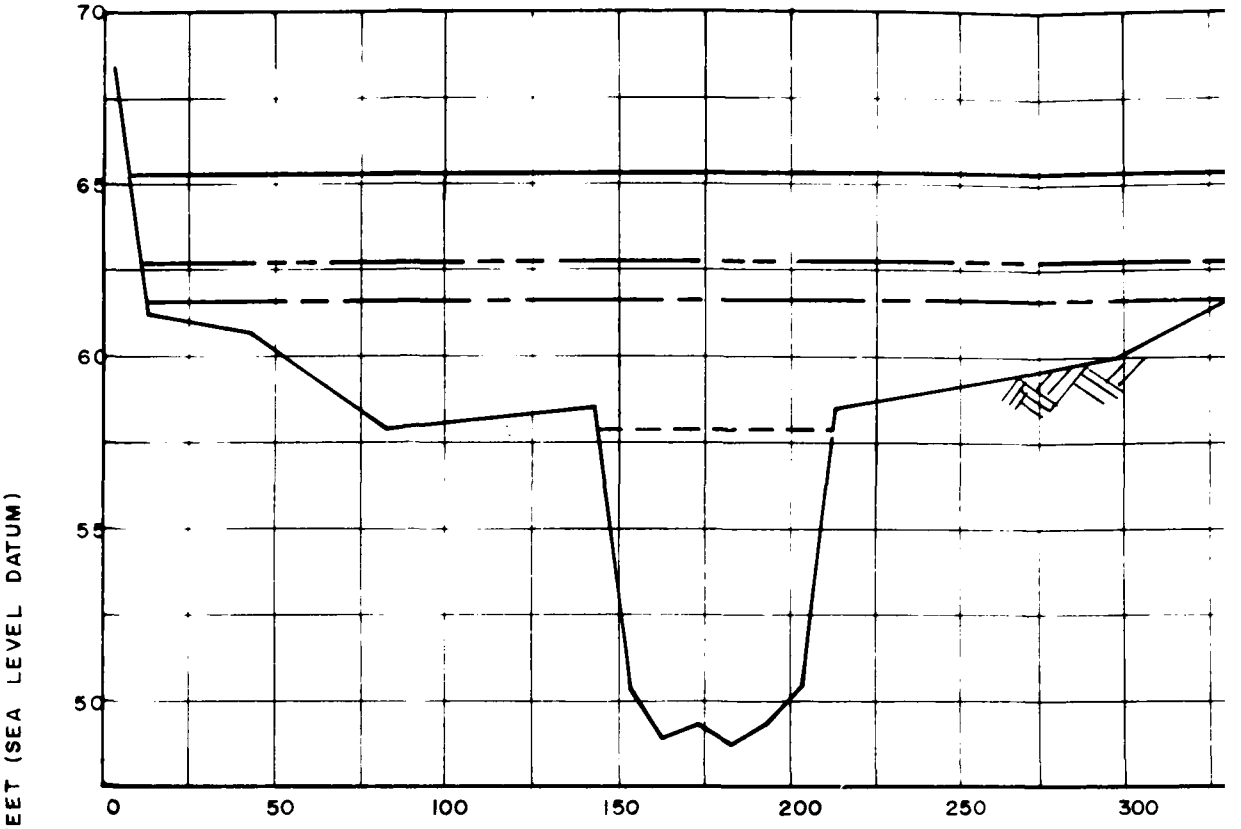
- 500 Year Flood
- 100 Year Flood
- 50 Year Flood
- 10 Year Flood
- Ground Line

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA
SPECIAL FLOOD HAZARD
INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

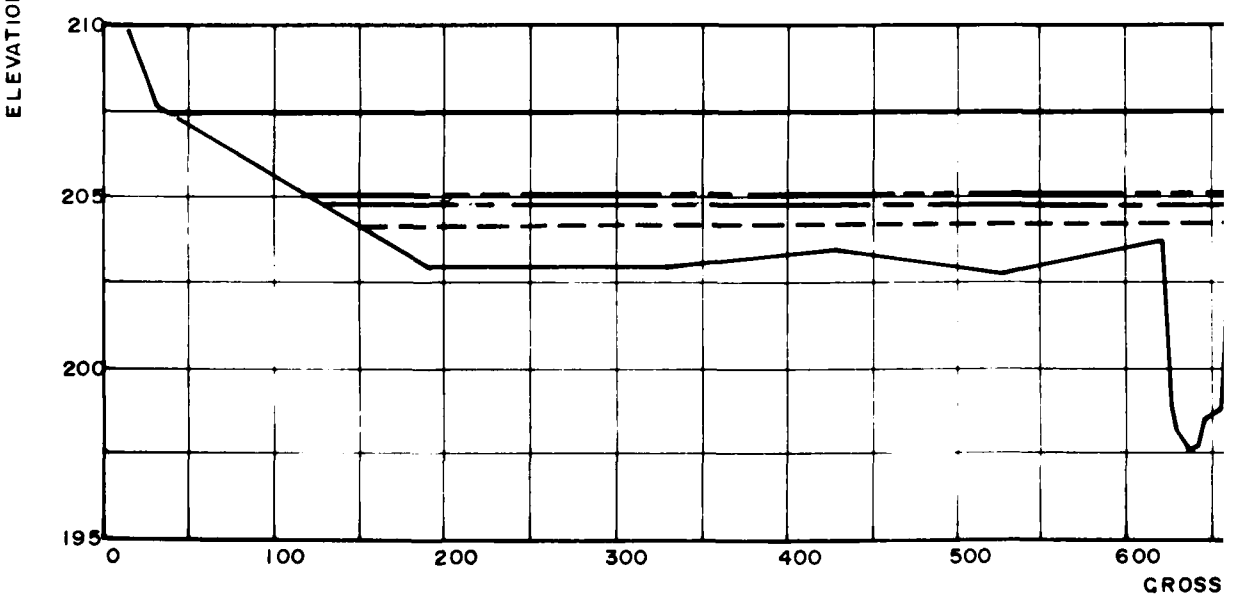
3

SELECTED CROSS SECTIONS
DARBY CREEK

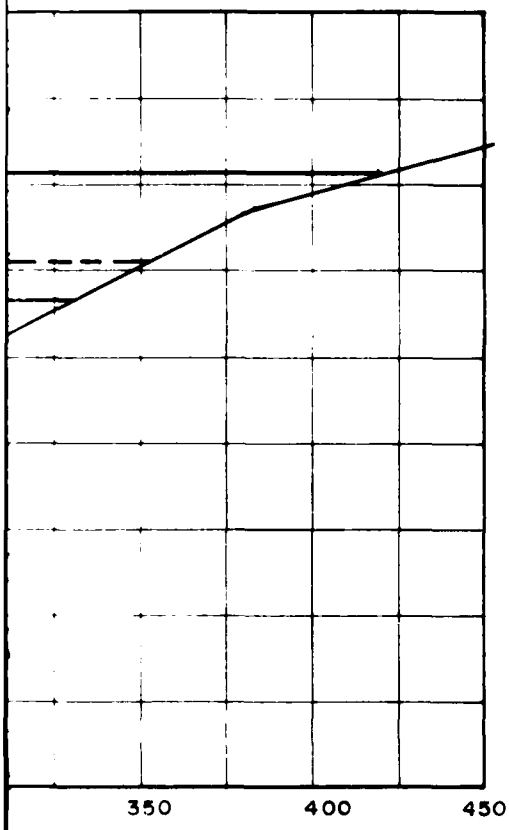
PLATE 11

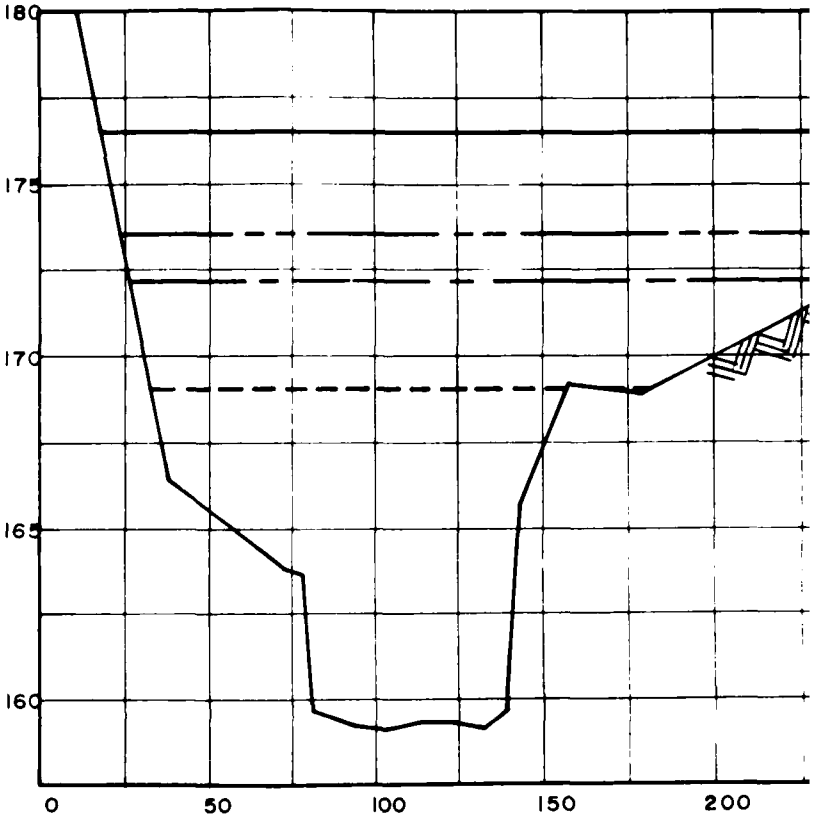


CROSS SECTION NO 16
STATION 515+85
DARBY CREEK

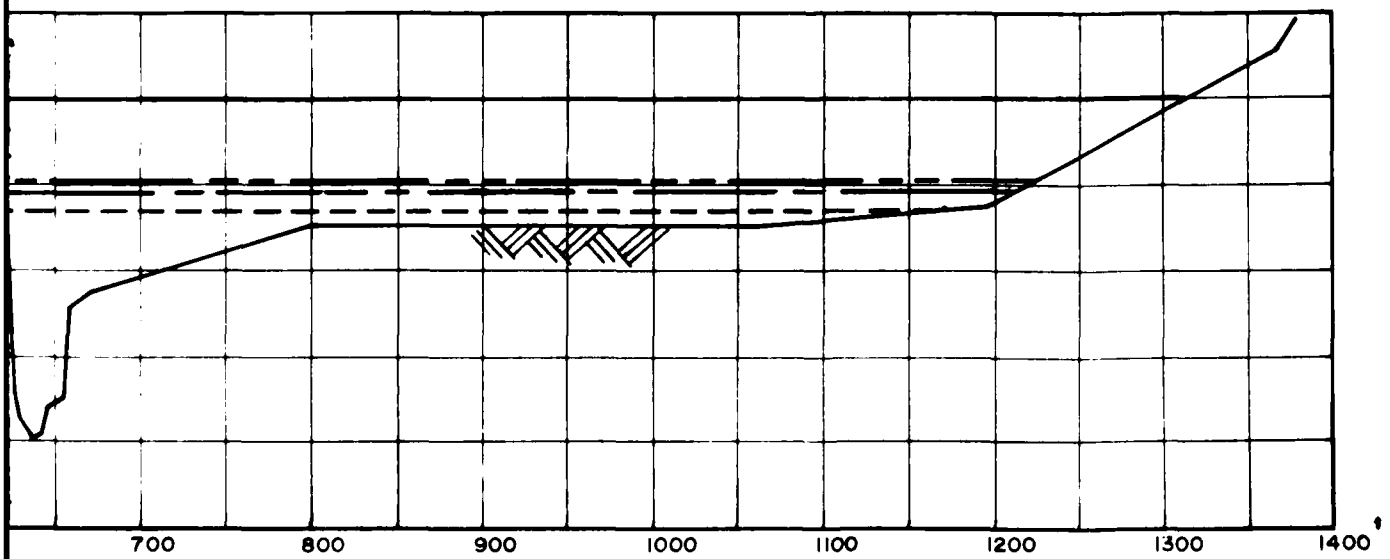


CROSS
ST
D



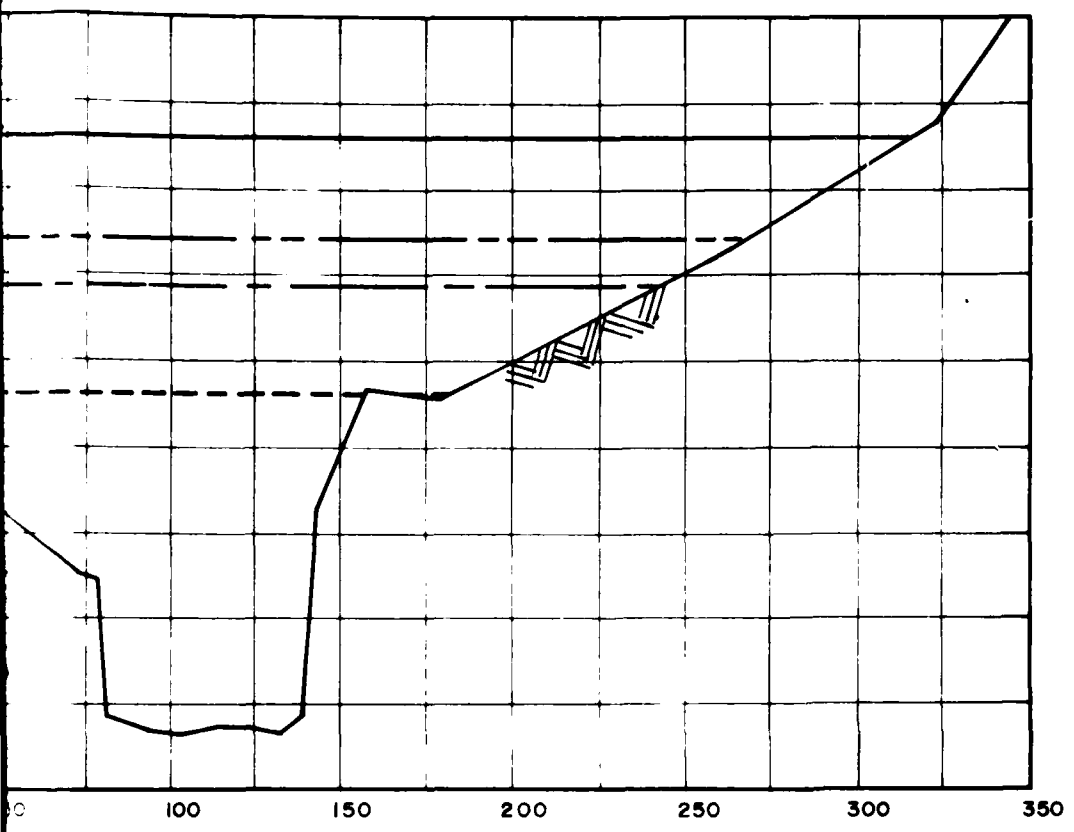


CROSS SECTION NO. 28
STATION 810+00
DARBY CREEK

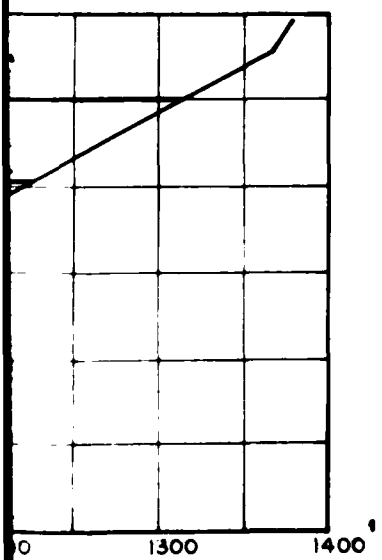


ROSS SECTION NO. 34
STATION 980+40
DARBY CREEK

STATIONING IN FEET



CROSS SECTION NO. 28
STATION 810+00
DARBY CREEK



LEGEND

- 500 Year Flood
- 100 Year Flood
- 50 Year Flood
- 10 Year Flood
- Ground Line

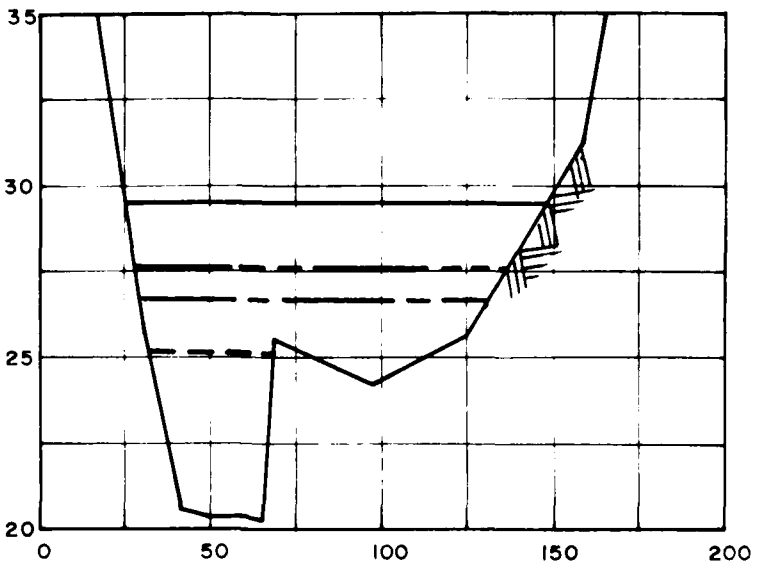
DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA

SPECIAL FLOOD HAZARD
INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

3

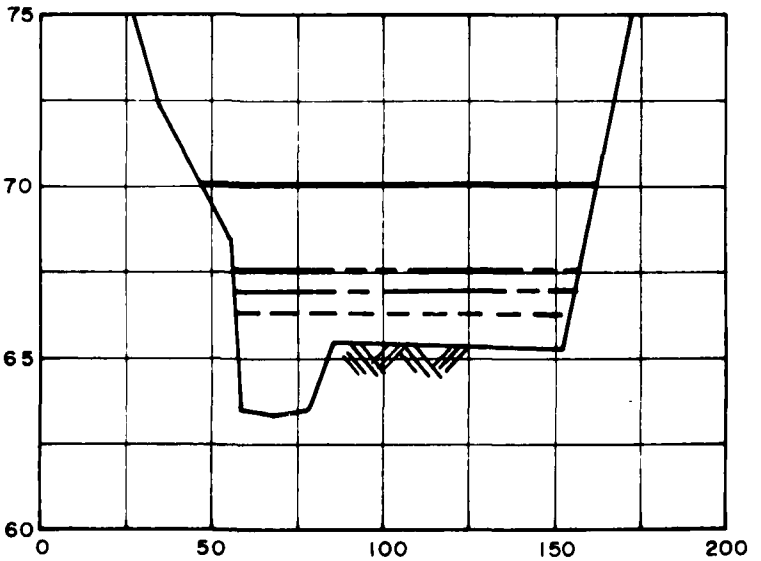
SELECTED CROSS SECTIONS
DARBY CREEK

PLATE 12



CROSS SECTION NO. 41
STATION 58+80
MUCKINIPATTIS CREEK

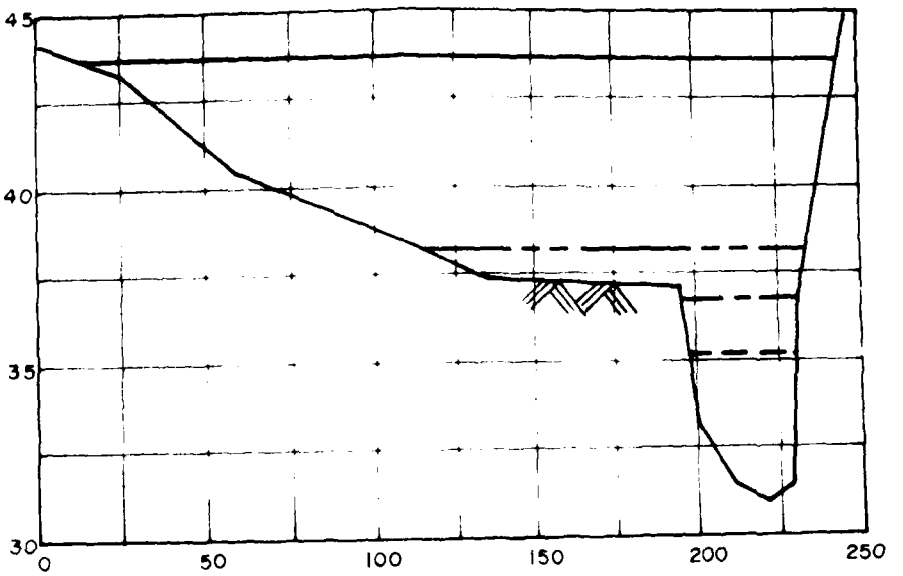
ELEVATION IN FEET (SEA LEVEL DATUM)



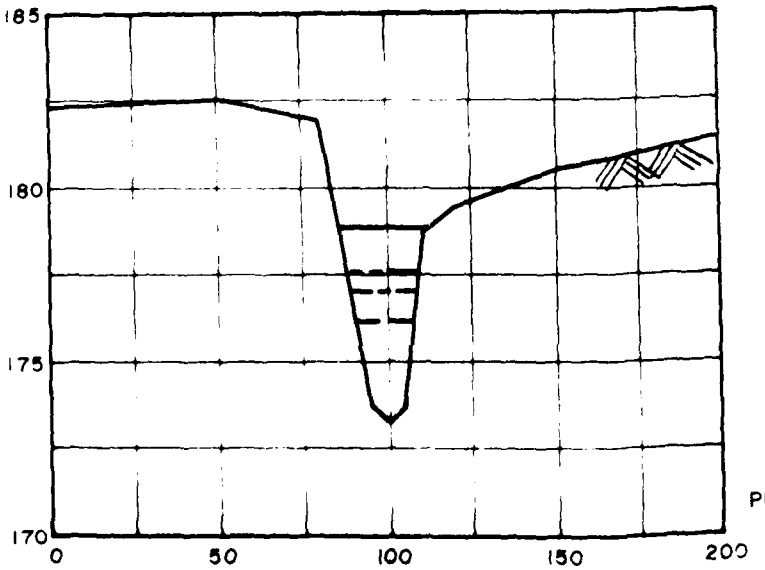
CROSS SECTION NO. 47
STATION 171+40
MUCKINIPATTIS CREEK

185
180
175
170

STATIONING IN



CROSS SECTION NO. 43
STATION 98+80
MUCKINIPATTIS CREEK



CROSS SECTION NO. 50
STATION 268+20
MUCKINIPATTIS CREEK

IONING IN FEET

LEGEND

500 Year Flood
100 Year Flood
50 Year Flood
10 Year Flood
Ground Line

DEPARTMENT OF THE ARMY
PHILADELPHIA DISTRICT, CORPS OF ENGINEERS
PHILADELPHIA, PENNSYLVANIA
SPECIAL FLOOD HAZARD
INFORMATION REPORT
DARBY CREEK
DELAWARE COUNTY, PA.

SELECTED CROSS SECTIONS
MUCKINIPATTIS CREEK

PLATE 13

END

DATE
FILMED
10-81

DTIC